# SOAP AND CHEMICAL SPECIALTIES

JANUARY 1961

Newly elected president of the Chemical Specialties Manufacturers Assn., Charles E. Beach, is vice-president and general manager of John C. Stalfort & Sons, Inc., Baltimore, Maryland.

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"Jenny" steam cleaner

bites soil harder ***...thanks to***

# SOLVAY LIQUID CAUSTIC POTASH

In Homestead Valve Manufacturing Company's "Jenny"® a heavy-duty liquid detergent containing Solvay® Caustic Potash quickly makes sludge-laden metal come whistle-clean.

More reactive caustic potash helps produce more soluble reaction products and less viscous solutions.

Caustic potash in a heavy-duty liquid cleaning compound can provide a greater concentration in stock solutions to reduce make-up time in comparison with sodium based products.

Allied Chemical

**SOLVAY PROCESS DIVISION**
61 Broadway, New York 6, N.Y.

*SOLVAY branch offices and dealers are located in major centers from coast to coast.*

Why not find out what Solvay Liquid Caustic Potash can mean in your formulations? Technical help, samples, and additional information are available for the asking.

**SOLVAY PROCESS DIVISION** 81-11
Allied Chemical Corporation
61 Broadway, New York 6, N.Y.

We are interested in caustic potash information.

☐ Please send data on recommended formula for liquid cleanser to be used for_____

☐ Please have representative call.

Name_____

Position_____

Company_____

Address_____

City_____ Zone____ State_____

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from Nature's
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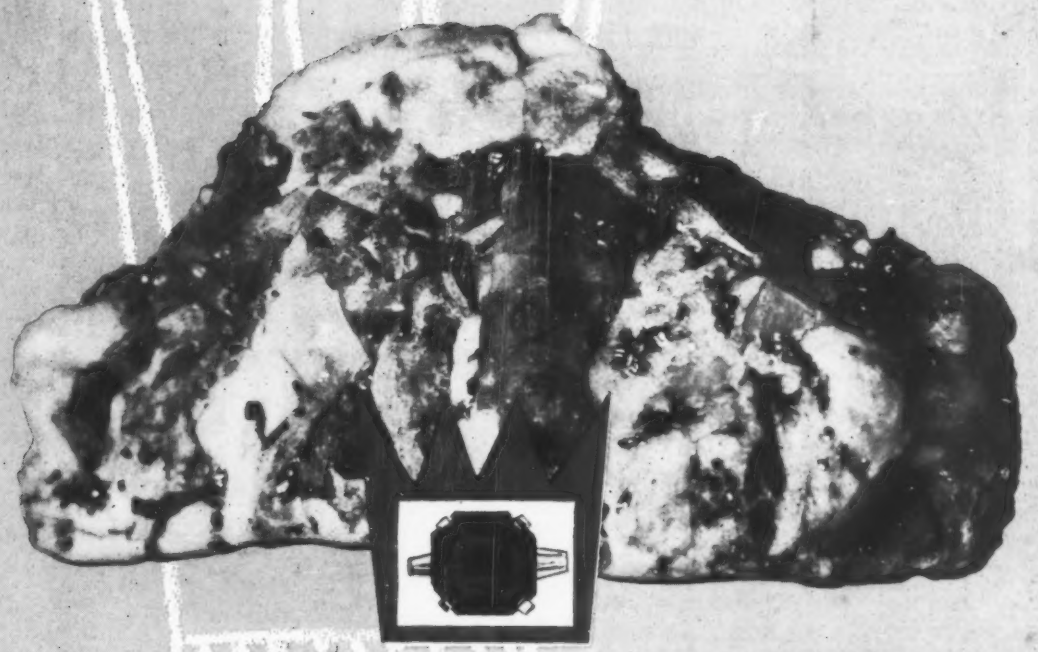
Fragrances by Norda



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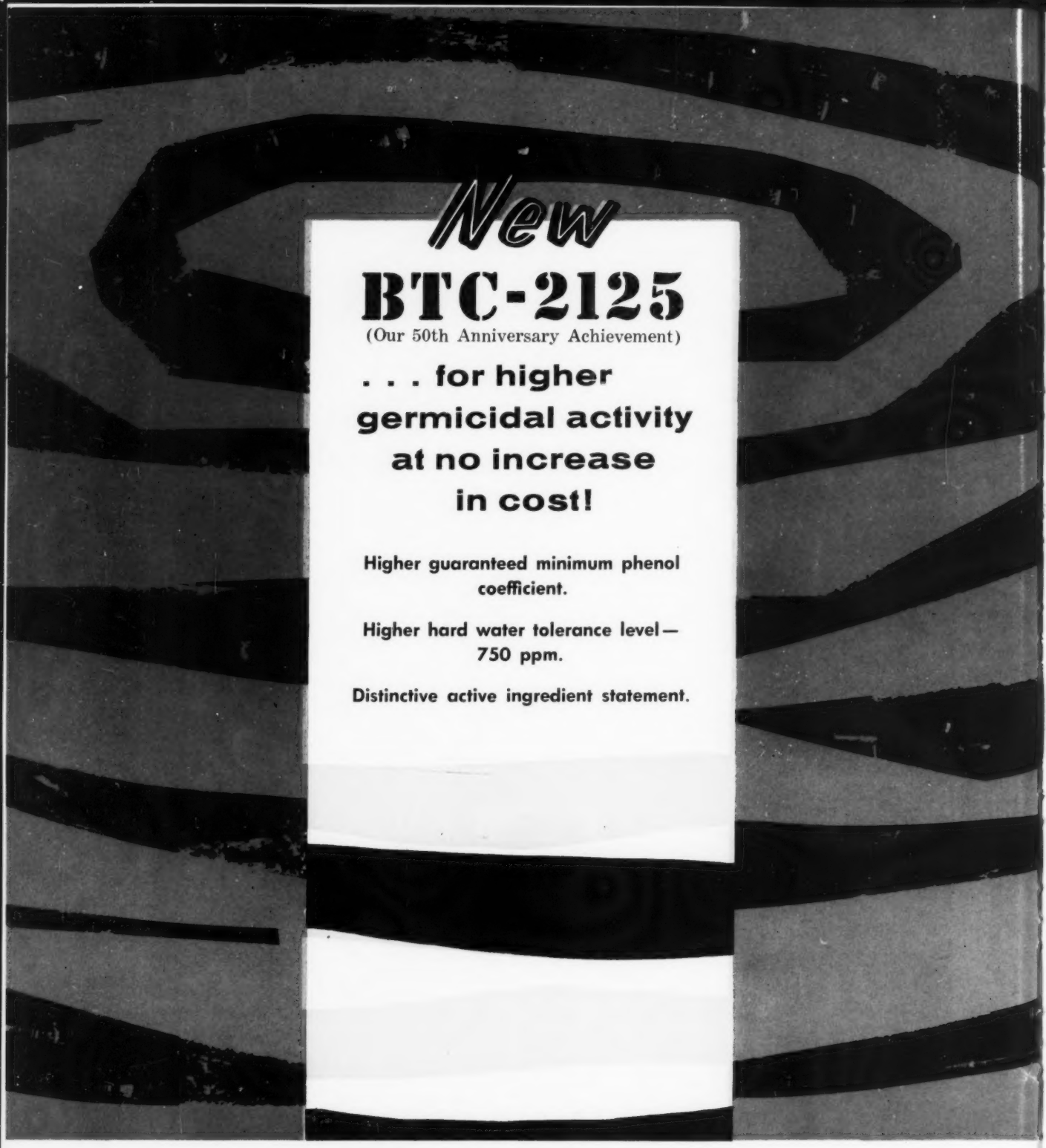
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BTC-2125
(Our 50th Anniversary Achievement)
. . . for higher germicidal activity at no increase in cost!
Higher guaranteed minimum phenol coefficient.
Higher hard water tolerance level—750 ppm.
Distinctive active ingredient statement.

Onyx BTC-2125 is a most potent germicide that offers the best sanitizing and disinfecting properties to your product. There is no substitute for this blend of two distinct quaternary ammonium compounds. BTC-2125 is designed to obtain maximum biocidal properties and high hard water tolerance levels. Formulate your detergent sanitizers based on BTC-2125 . . . the germicide that gives you more for your money. Write for technical bulletin and samples.

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**ONYX CHEMICAL CORPORATION**

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FORMERLY ONYX OIL AND CHEMICAL COMPANY

Vol. XXXVII, No. 1, Jan., 1961

*Cover Photo: New president of the Chemical Specialties Manufacturers Assn., Charles E. Beach, joined the sales force of John C. Stalfort & Sons Co., Baltimore contract loaders and private label manufacturing firm in 1946, following three years with the U. S. Navy in World War II. In 1949 he became vice-president and general manager of Stalfort, and when Stalfort Pressure-Pak Co. was formed the same year, he was named its president. He was graduated from Ohio University in 1933 with a B. A. degree in business economics and accounting.*

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# For private brand resale buyers of waxes and kindred products ...Your Quality Guide

**WATER EMULSION WAXES**
Each of Candy's floor waxes are all-around top quality for certain traffic conditions. They impart the finest protection and beauty to floors for which best suited.

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**BRIGHT BEAUTY®**
**CANDY'S SUPREME Special WR**
**SUPER** CAND-DOX®
CAND-DOX® #CS
CANDI-WAX #6000

All Candy's products are available for private brand resale and are sold only through distributors except for experimental accounts in Chicago essential to research.

## Beauty and Durability

Initial appearance is important, but for a waxed surface to remain beautiful, it must be durable. Durability depends not only on resistance to abrasion of traffic, but even more so on resistance to discoloring marks. Durability should be measured by how long the waxed surface maintains a nice appearance before complete removal and re-waxing is required.

## Anti-Slip

Anti-slip, or reasonable safety underfoot, does not mean that the qualities of beauty and protection need be sacrificed. The proper balance—a wax film which is not excessively slippery, yet which is not tacky and does not collect dirt readily—gives the performance that answers the foremost original reason for use of a floor wax...beauty and protection.

## Water Resistance

Frequent damp mopping or wet traffic can make water resistance very important. Over-doing this quality when no problem exists out of the ordinary, simply increases the difficulty of complete removal or applying multiple coats. Removability must be considered as important as water-resistance under most normal conditions.

## Solid Content

The percentage of solid content is not nearly as important as the **quality** of the solids. Good quality indicates 12% of solids as the answer for most well planned maintenance programs. Two applications of 12% gives better results than one of 18%. "Washed out" floors and other special problems maintain better when more concentrated waxes are used. Over-waxing and resultant greater difficulty in removal for periodic maintenance may do more harm than good.

## Carnauba Wax

The most important features of a good wax...all-around quality of performance...are built around Carnauba Wax. When refined and compounded with other additives and scientifically controlled in manufacture, Carnauba alone imparts the beauty and protection that makes the use of floor waxes both profitable and possible. Make-shift manufacture or over-emphasis on any one given wax feature should be avoided and proper care taken to provide for most satisfactory performance.

## Other HIGHEST QUALITY products of CANDY & COMPANY, Inc.

CANDI-COAT 1000, WATER RESIN EMULSION

**As a floor coating for use under specific conditions of continued maintenance on certain types of floors this water resin emulsion has none of the faults associated with coatings of this type. It is the finest product in its class produced up to this time.**

Bright Beauty WAX REMOVER & all-purpose SURFACE CLEANER

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Bright Beauty GLASS POLISH & CLEANER and SILVER POLISH

**As a glass cleaner (pink color) it applies evenly with little effort, wipes off easily with negligible "powdering" and produces an undeniable "feel" of cleanliness to glass. As a cleaner of silver, it polishes to a high lustre *without* abrasion and can even correct the abuses of scratchy "quick-polish" inferior products.**

Bright Beauty DANCE FLOOR WAX

**Does not "ball-up" and gather dirt that impregnates floors with hard spots difficult to remove...free from dusty effects. Its protective quality adds more "floor-years" to expensive ballroom floors.**

Bright Beauty Heavy Duty PASTE CLEANER

***Cleans* and *scours* more effectively and quicker than most scouring powders. Depending on application, it can clean to perfection even painted walls to provide a suitable repainting surface. 100% active, free from excessive abrasive qualities, it frees almost every surface from all foreign matter.**

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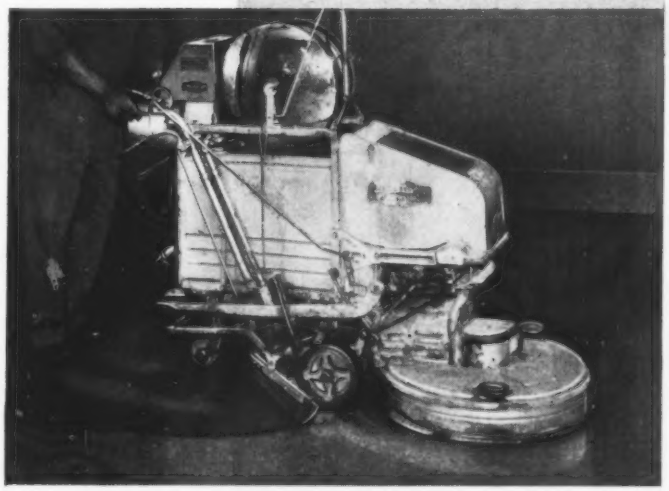
## NEW TYPE AMIDE PROVIDES CLEAR SOLUBILITY IN HARD WATER AND MAXIMUM STABILITY

STEPAN CHEMICAL COMPANY



OUTSTANDING FOR USE IN

- SYNTHETIC LIQUID FLOOR CLEANERS
- WAX STRIPPERS
- ALKALI CLEANERS
- DETERGENT SANITIZERS

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**STEPAN**
CHEMICAL COMPANY

Edens & Winnetka
Northfield, Illinois
HIllcrest 6-7500

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Edens & Winnetka
Northfield, Illinois

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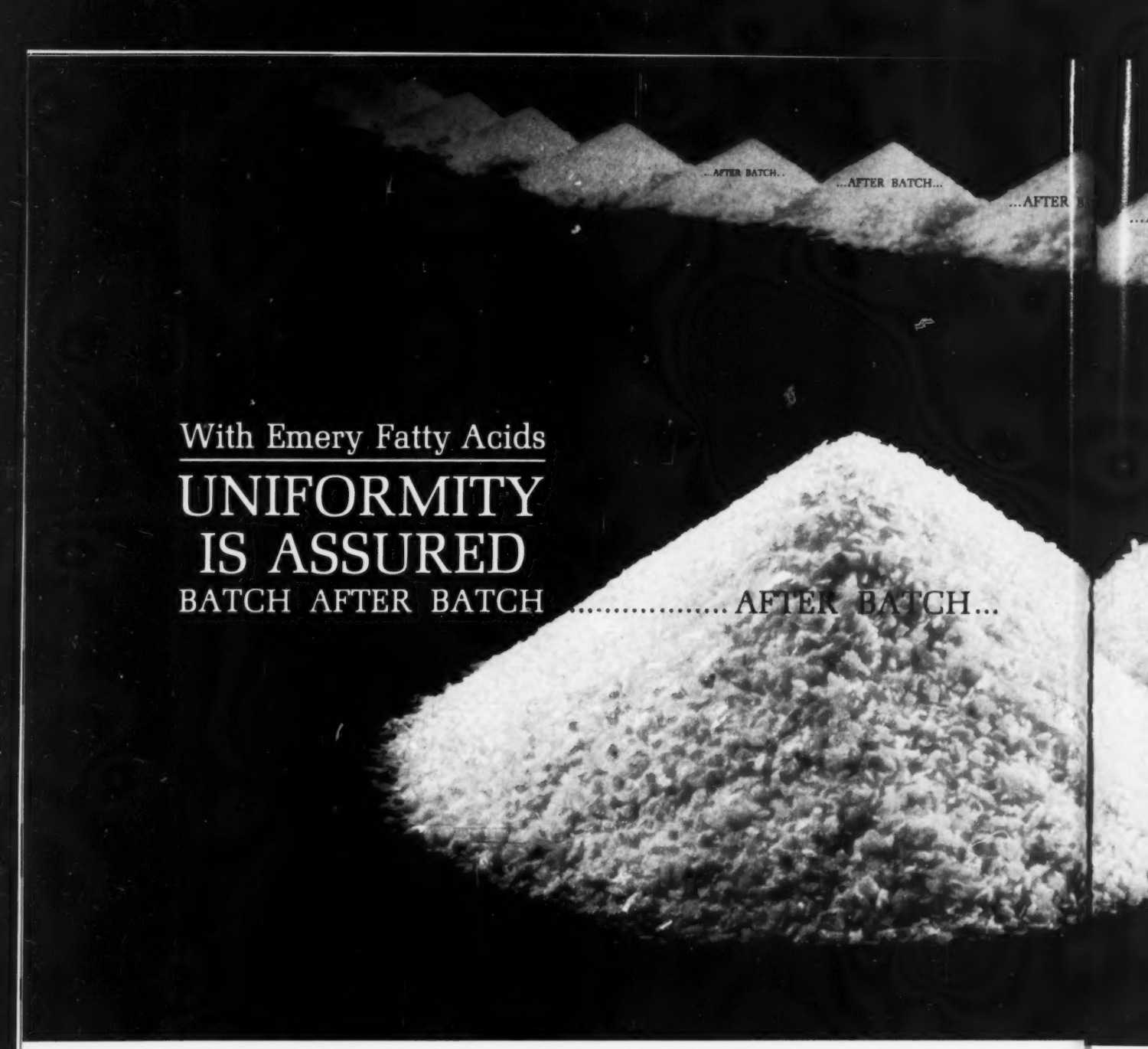
Firm .....
Street Address .....
City ..... Zone ..... State .....




Producing a product of consistent quality (and one with consistent sales appeal) is an easier, less costly job for users of Emery Fatty Acids. This is because these fatty acids offer the highest degree of chemical and physical uniformity from batch to batch—a fact which is convincingly illustrated in the adjoining charts.

Emery achieves this uniformity by a series of quality control checks at every stage of processing, each of which may involve as many as eight different analytical tests.

This kind of quality control in processing gives you assurance of the same fatty acid performance time after time . . . that you will always get full value for your dollar . . . that your product will be uniform, batch . . . after batch . . . after batch.

Checks on a series of 100 consecutive shipments of Emersol® 132 Lily Stearic Acid and of Emersol® 233 LL (low-linoleic) Oleic Acid show how Emery fatty acids always stay within the narrow specifications set for them. This is another example of how Emery Fatty Acids offer you—a little extra everything except price. Why not include these top performers in your formulations? For samples or product literature write Dept. S-1.

Emery **FATTY ACID DIVISION**

**Emery Industries, Inc.,** Carew Tower, Cincinnati 2, Ohio

Vopcolene Division, Los Angeles—Emery Industries (Canada) Ltd., London, Ontario—Export Division, Cincinnati

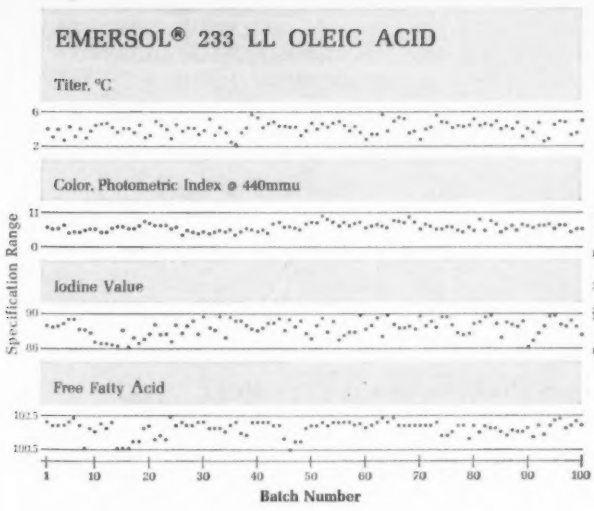
...AFTER BATCH...

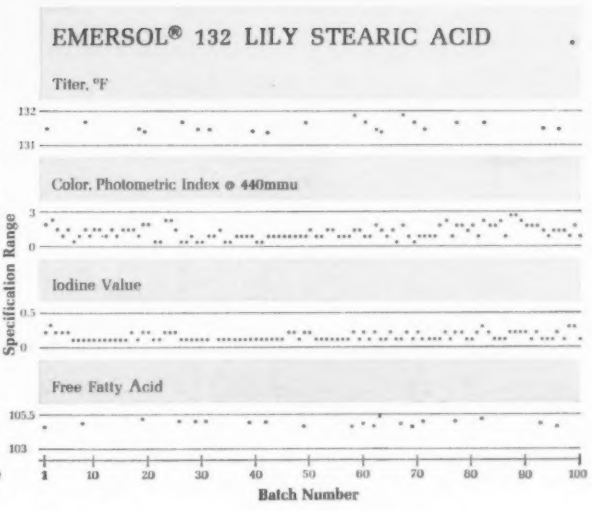
...AFTER BATCH...

...AFTER BATCH...

...AFTER BATCH...

...AFTER BATCH...



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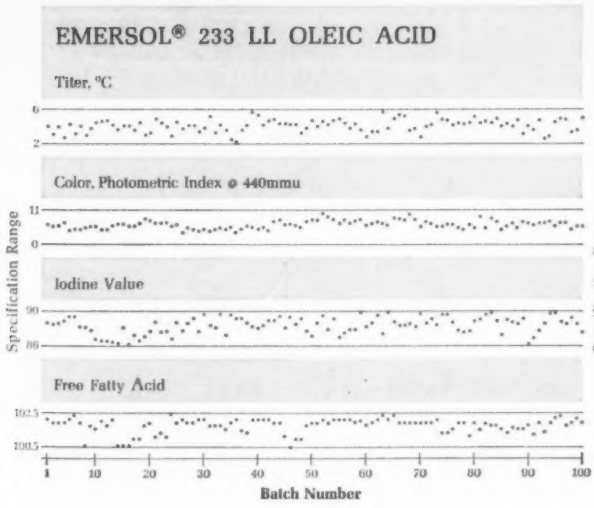
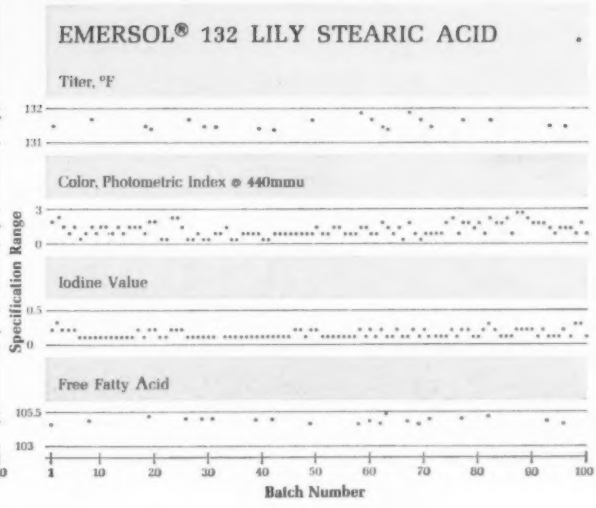
WORLD-WIDE RESOURCES


EMERSOL® 233 LL OLEIC ACID
Titer, °C
6
2
Color, Photometric Index @ 440mmu
11
0
Specification Range
Iodine Value
90
86
Free Fatty Acid
102.5
100.5
1
10
20
30
40
50
60
70
80
90
100
Batch Number


EMERSOL® 132 LILY STEARIC ACID
Titer, °F
132
131
Color, Photometric Index @ 440mmu
3
0
Specification Range
Iodine Value
0.5
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Free Fatty Acid
105.5
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80
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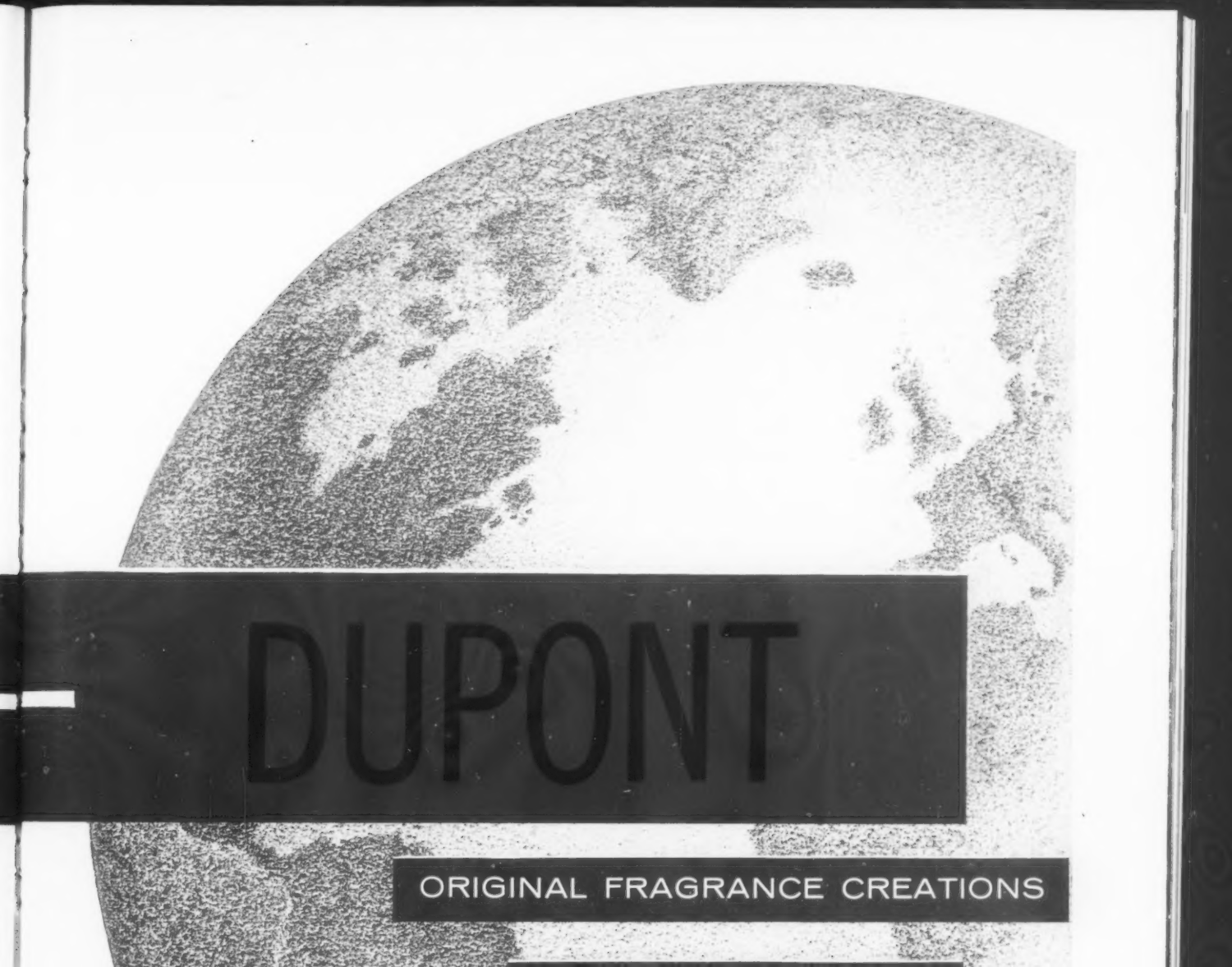
Batch Number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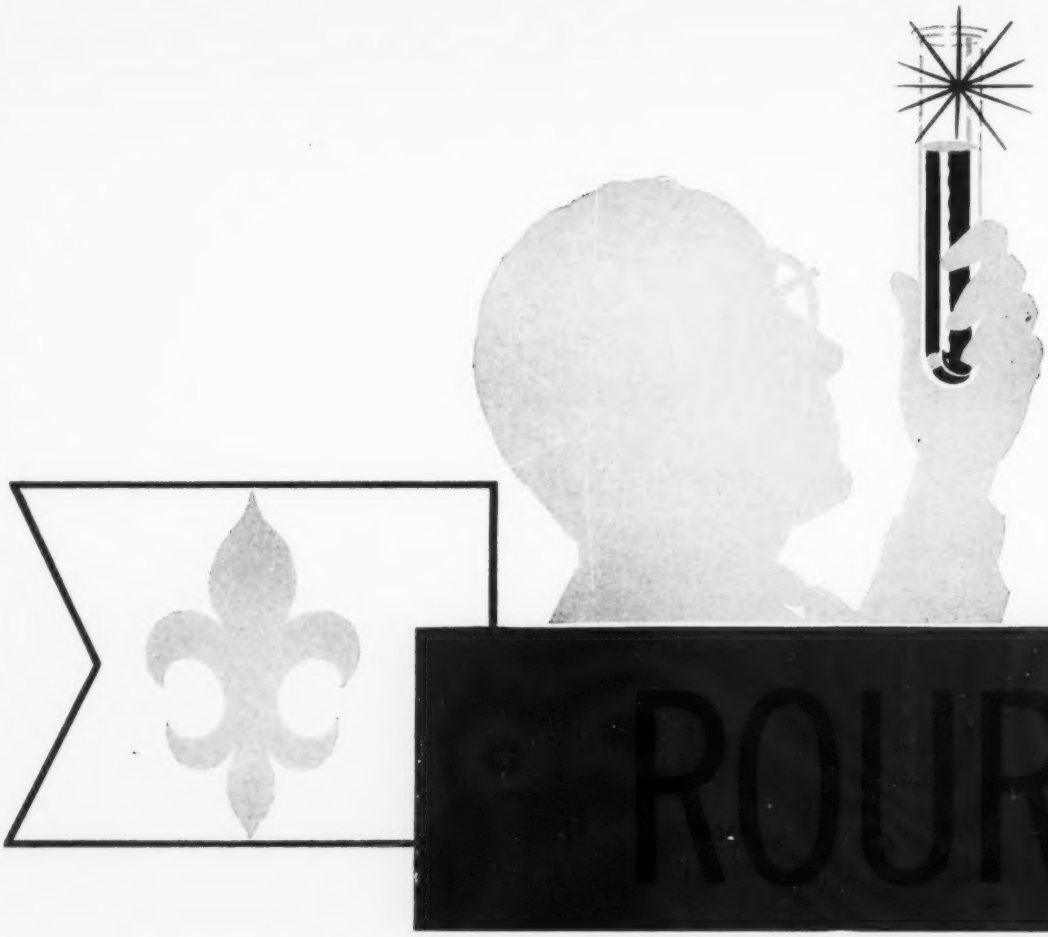
ORIGINAL FRAGRANCE CREATIONS

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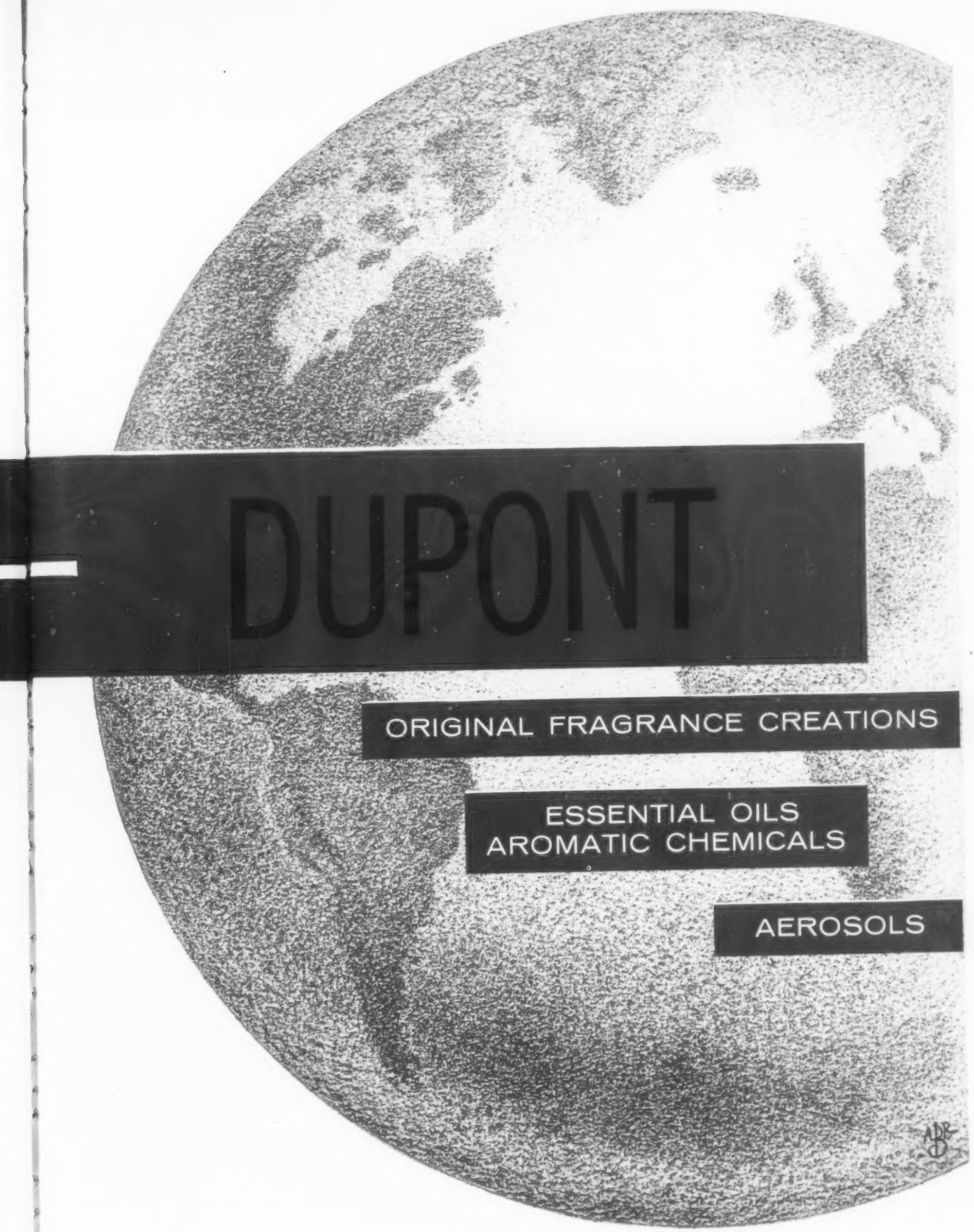
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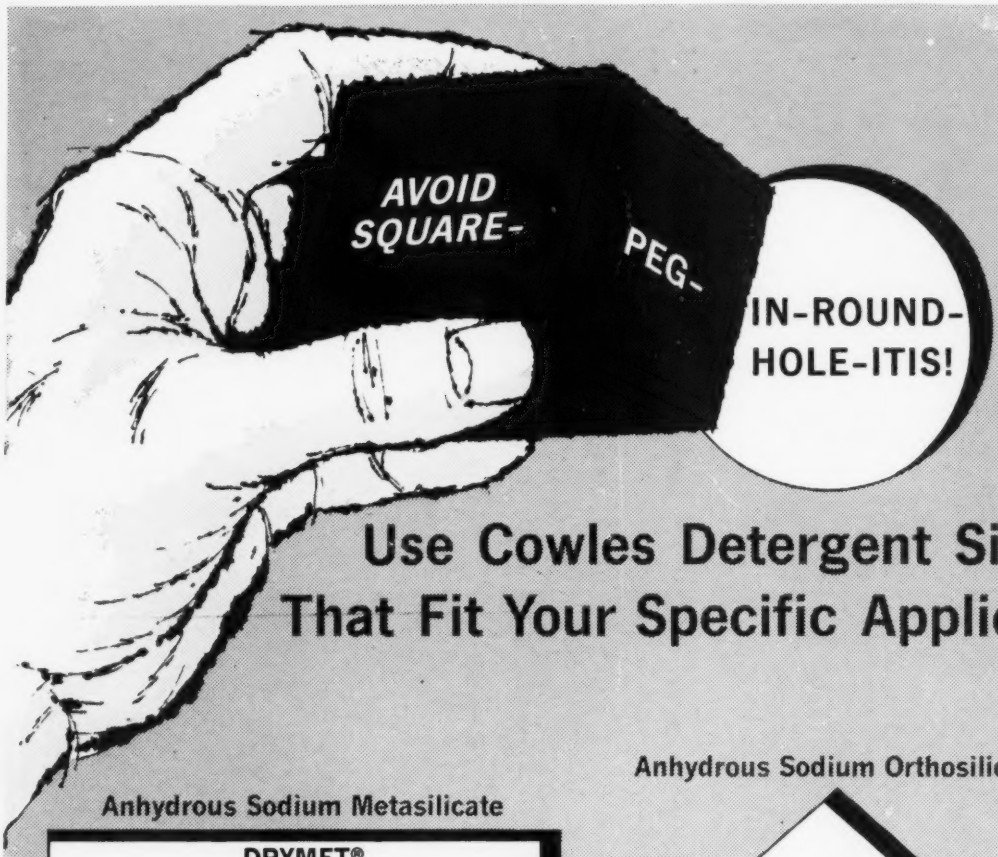


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Most highly concentrated metasilicate . . . a source of controlled alkalinity. DRYMET puts extra value into your cleaning compounds. Blends easily with other alkalies, soaps, synthetics.

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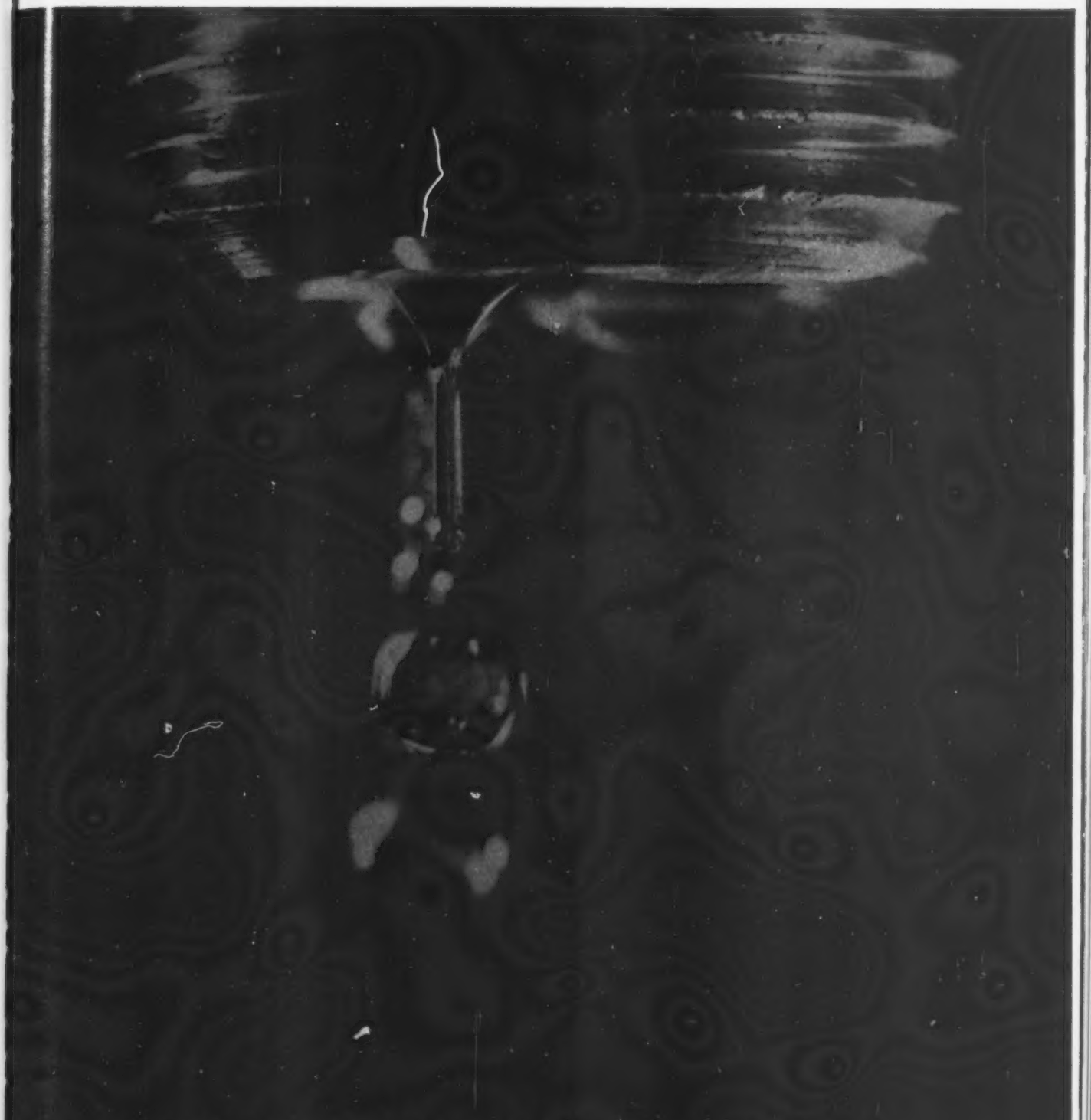

***WATER CLEANS BETTER WHEN IT'S WET*** Water **does** clean better when it's wet. But you are looking for certain kinds of wetness—a soft delicate wetness for a baby shampoo, perhaps—or a brawny, vigorous wetness for an all-purpose detergent. □ Atlantic Ultrawets® are the answer. These surfactants are specifically tailored to enable you to build the exact product properties demanded by your market. □ The physical clarity, chemical purity, high active content and production consistency of these alkyl aryl sulfonates give you unusual control of your product's appearance and performance while providing ease and economy in your formulating process. □ And with Atlantic Ultrawets, at no extra cost, you get qualified chemical and technical assistance without equal in the industry. □ Call us, won't you? THE ATLANTIC REFINING COMPANY

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CHEMICALS

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your product
sparkles

and here's where
it shines

with soluble

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TKPP

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for liquid detergents,
all purpose cleaners and
dishwashing compounds!

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For convenience and economy, you can get FMC TKPP in granular or powder form (bags, drums or bulk) or as a 60% solution. It's available in mixed truckload or carload shipments with our other phosphates and with CDB® Chlorinated Dry Bleaches.

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POTASSIUM PHOSPHATES Dipotassium Phosphate Monopotassium Phosphate Potassium Tripolyphosphate Tetrapotassium Pyrophosphate Tripotassium Phosphate
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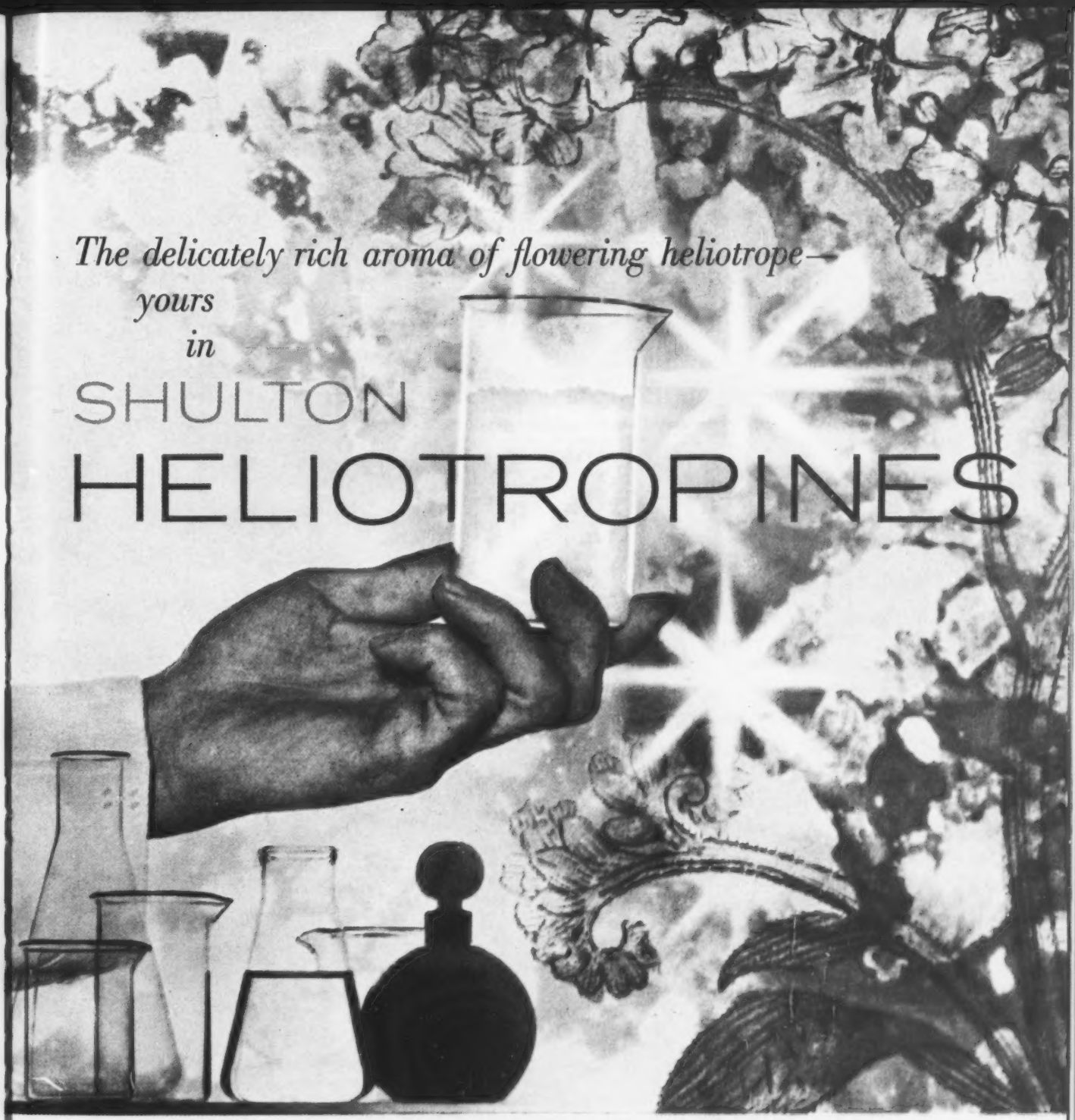

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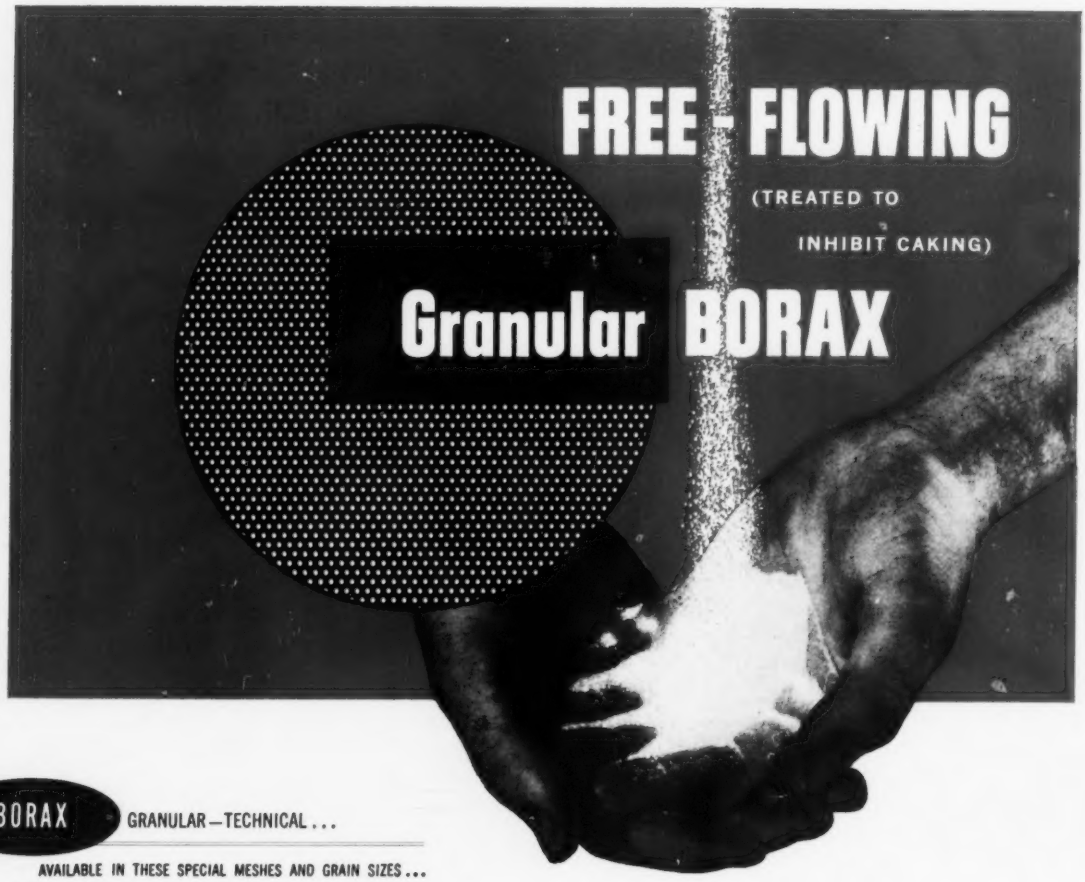


**BORAX** GRANULAR—TECHNICAL . . .

AVAILABLE IN THESE SPECIAL MESHES AND GRAIN SIZES . . .

| Name & Screen Designation | Typical Particle Size Range U. S. Standard Sieve No. | | Screen Specification U. S. Standard Sieve No. When Packed | |
|---|---|---|---|---|
| Granular 8/40 (Special Mesh) | + 8<br>+ 40 | Nil<br>96.8% | + 45 | min. 95% |
| Granular 8/60 (Special Mesh) | + 8<br>+ 60 | Nil<br>80.0% | + 8<br>+100 | none<br>min. 90% |
| Granular 30/60 (Special Mesh) | + 30<br>+ 60 | 0.5%<br>69.8% | + 30<br>+100 | max. 1%<br>min. 80% |
| Granular 30/70 (Special Mesh) | + 30<br>+ 70 | 0.3%<br>71.0% | + 30<br>+ 40 | max. 1%<br>max. 20% |
| Granular 30/80 (Special Mesh) | + 30<br>+ 80 | 0.8%<br>76.6% | + 30 | max. 1% |
| Granular 30/100 (Special Mesh) | + 30<br>+100 | Nil<br>86.7% | + 35<br>+100 | none<br>min. 85% |
| Granular 40/100 (Special Mesh) | + 40<br>+100 | Nil<br>89.0% | + 40<br>+100 | max. 0.5%<br>min. 88% |
| Granular 40/140 (Special Mesh) | + 40<br>+140 | 0.1%<br>88.8% | + 35<br>+100 | none<br>min. 50% |
| Granular 40/200 (Special Mesh) | + 40<br>+200 | 0.1%<br>84.1% | + 30 | none |
| Granular 60/200 (Special Mesh) | + 60<br>+200 | 0.1%<br>66.7% | + 60 | max. 1% |
| Granular 80/200 (Special Mesh) | + 80<br>+200 | 2.0%<br>67.6% | + 60<br>+ 80 | none<br>max. 5% |

*Powdered Hand Soaps* are better performers when borax is part of their make-up. They work better in any water — cut grease quicker — and feel smoother. Our granular borax is free-flowing and 100% soluble. This material is now available to you in any of the many special uniform meshes listed at left. Samples, bulletins, or technical advice can be obtained from the sales office nearest to you. Write today!

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Sarkosyl NL30 is recommended f use in rug and upholstery shar poos, aerosol products, scourir pads, dishwashing detergent glassware rinses, hair shampo hand cleaners, fruit washing, toil soap, food plant sanitation, met cleaners, bottle washing alkal steam jenny cleaners, fine fabr wash and anti-static, sweater was window cleaning fluid, water trea ment.

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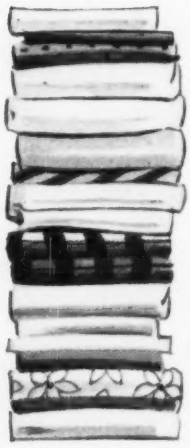

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Improved cleaning performance in soft warm water

Satisfactory performance with NO costly foam booster

Improved skin irritation characteristics

The quality of ALKANE 60 sulfonate is better because of better sulfonate color, lower unsulfonatable oil and improved odor.

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* California Chemical Company's trademark for its detergent intermediate.

6939

# AFTER CLOSING---

### Rodda Upped by FMC

John A. Rodda, formerly general manager of Fairfield Chemicals of the Food Machinery &

John A. Rodda

Chemical Corp., has been appointed assistant to the president of FMC, according to an announcement from James M. Hait, president. Mr. Rodda will direct the activities of FMC's Washington office. He succeeds Hubert E. Dobson, former Washington manager. FMC's Washington office staff represents company operations in chemicals, commercial machinery and government defense projects. The company, with corporate headquarters in San Jose, Calif., has a network of manufacturing operations in the United States and in nine foreign countries.

Mr. Rodda is a member of the Board of Governors of the Chemical Specialties Manufacturers Association and widely known in the chemical specialty field. During World War II, he was a unit chief in the Chemical Division of the War Production Board being in charge of the activities in insecticides and related products.

George Kerbey, formerly sales manager for Fairfield Chemicals, has been appointed general manager to succeed Mr. Rodda. He joined Fairfield in 1954. His headquarters will continue in New York City. Mr. Kerbey has been a specialist in insecticides and other agricultural products having formerly been associated with the U. S. Department of Agriculture and with Dow Chemical Co.

George Kerbey

—★—

### Joseph A. Deimling Dies

Joseph A. Deimling, 41, assistant to the general product manager of toilet articles division, Colgate-Palmolive Co., New York, died Dec. 25, after a brief illness.

Mr. Deimling joined Colgate-Palmolive in 1953, as assistant promotion and merchandising manager for toilet articles. He was appointed merchandising manager in 1956, and was named product manager for the "Lustre-Creme" line a year later. In January, 1959, Mr. Deimling was appointed product manager for "Colgate Dental Cream" and other dentifrices. He was named assistant to the general product manager in April, 1960.

Prior to joining Colgate-Palmolive Co., Mr. Deimling served for six years with S. C. Johnson and Son, Inc., Racine, Wisc., as product advertising manager.

He is survived by his widow, Joan, and four children, Eugene, Thomas, Michael, and Joanne.

### Holmes to Davies-Young

Clyde H. Holmes has been appointed sales promotional representative for Davies-Young Soap

Clyde H. Holmes

Co., Dayton, O., it was announced recently by R. H. Gildner, sales manager.

Mr. Holmes, with a successful sales background of over ten years, will develop the sale of the "Buckeye" line of cleaning and maintenance materials with distributors in Florida.

—★—

### EOA Reelects Horsey

R. E. Horsey, vice-president of Givaudan-Delawanna, Inc., was relected to a second term as president of the Essential Oil Associa-

Robert E. Horsey

tion at the group's annual meeting, held Jan. 6 in New York.

The following slate of officers was elected: R. E. Felton of Felton Chemical Co. – first vice-president; F. F. Dittrich of Ungerer & Co.–second vice-president; and E. Manheimer of J. Manheimer – secretary/treasurer.

The executive committee will include: V. G. Fourman of Syntomatic Corp.; F. K. Goudsmit of van Ameringen-Haebler Division of International Flavors & Fragrances, Inc.; G. Keller of Schimmel & Co.; A. H. Moeller of Noville Essential Oil Co.; and B. Polak of Polak's Frutal Works, Inc.

Mr. Horsey was optimistic in his analysis of the industry's prospects for 1961. "As far as can be determined, there is no overproduction of essential oils in relation to consumption," he said in his presidential address and forecast a "probable strengthening of prices."

—★—

## Emery Reorganizes

Emery Industries, Inc., Cincinnati, has divided its chemical division into the fatty acid and the organic chemicals division, it was announced Jan. 5 by A. W. Schubert, president. G. W. Boyd, sales manager of the fatty acid sales department for the past five years, has been appointed general manager of the newly formed fatty acid division. He is responsible for marketing, research, development, and manufacturing activities of the division. His previous positions with Emery include that of sales manager of the firm's "Sanitone" division.

R. F. Brown, newly appointed general manager of the organic chemicals division, has served with Emery in various sales capacities for the past 15 years. He was sales manager of the organic chemicals sales department for the past five years.

At the same time, Mr. Schubert announced the advancement of John M. Archiable to director of foreign operations. This post includes responsibility for Emery Industries (Canada), Ltd., London, Ont. and Emery's managerial responsibilities in Unilever-Emery N.V., Gouda, Holland. In addition, Mr. Archiable has been named corporate director of the manufacturing staff. Prior to his recent appointment he was works manager for 13 years.

G. W. Boyd

R. F. Brown

J. M. Archiable

—★—

## Emery Names Four

Four key appointments in the newly formed fatty acid division of Emery Industries, Inc., Cincinnati, were announced Jan. 15 by G. W. Boyd, general manager of the division.

D. R. Eagleson, newly appointed sales manager of the division, will supervise a force of direct sales personnel and be responsible for sales of fatty acid and methylesters east of the Rockies. He was assistant sales manager for four years and formerly served as manager of Emery's Chicago office.

R. W. Chapman becomes divisional production manager and R. L. Imholt has been named assistant production manager. Both men joined the firm as production foremen. Mr. Chapman has been assistant production manager for the past five years. Mr. Imholt's most recent position was general foreman of the fatty acid section of the Cincinnati plant.

K. T. Zilch has been named technical director. In this capacity he will head research, development and service for the division and quality control for the entire Cincinnati plant. Dr. Zilch formerly headed the process research section of Emery's research department.

—★—

## Victor Appoints Callies

Edward H. Callies, Jr., has been named director of the special products department, Victor Chemical Works, Chicago, (division of Stauffer Chemical Co., New York), it was announced recently by Donald G. Brower, vice-president of research. Mr. Callies, formerly assistant director, replaces Ralph P. Gates, who now holds a sales department post.

Mr. Callies came to Victor in 1949, and has been with the special products department since

D. R. Eagleson

R. W. Chapman

K. T. Zilch

1951. He will direct the commercial development of both new products and new uses for Victor's established phosphorus products.

—★—

### Edward Block Dies

Edward Block, 58, senior vice-president and general manager of the chemical division, Olin Mathieson Chemical Corp., Baltimore, died Jan. 4, at Johns Hopkins Hospital.

Mr. Block was appointed secretary-treasurer of the Blockson Chemical Co., Joliet, Ill., in 1933, and remained in that post until the company's acquisition by Olin Mathieson in 1955. He was a member of the boards of Olin Mathieson and Helene Curtis Industries, Inc., Chicago. Mr. Block was a member of the American Chemical Society.

He is survived by his wife, Florence; a son, Dr. George Block, and a brother, William, vice-president and manager of the Blockson works.

—★—

### Ultra Chemical Ups Weston

William Weston has been appointed executive vice-president of Ultra Chemical Works, Inc., Paterson, N. J., it was announced recently by Henry Ruegg, president. Ultra is a wholly-owned subsidiary of Witco Chemical Co., New York.

Prior to his promotion, Mr. Weston, with the firm for 22 years, was vice-president in charge of operations.

William Weston

### Olin Mathieson Ups Three

William Block has just been named vice-president and manager of the Blockson operations chemi-

William Block

cal division in Joliet, Ill., of Olin Mathieson Chemical Corp., New York. This was announced recently by Edward Block, senior vice-president and general manager. Mr. Block, formerly in charge of sales for Blockson, joined the company in 1928. Blockson was merged with Olin Mathieson in 1954.

It was also announced that Edwin B. Lopker has been appointed vice-president, engineering, for the chemicals division. Mr. Lopker, formerly vice-president and manager of operations at Blockson, will move from Joliet to the corporation's Baltimore offices. He joined Blockson Chemicals in 1949 as chief engineer.

The appointment of Cecil L. Williamson as manager of special projects, chemical division, was announced at the same time. Mr. Williamson will remain in Baltimore, reporting to the division general manager, and will be responsible for investigations, evaluations and special coordinating assignments.

—★—

### D&O in New Location

Dodge & Olcott, Inc., (established in 1798), manufacturer of essential oils, aromatic chemicals, oleoresins, seasonings, flavors and perfume bases, has announced the recent move of its general offices and laboratories to Manhattan Industrial Center, 75 Ninth Ave., New York 11, N. Y.

D & O also maintains a dry materials division in Hawthorne, N. J. and sales offices in principal cities throughout the United States.

—★—

### SAACI Nominees for 1961

The following slate of officers and directors for 1961, has been submitted by the nominating committee of the Salesman's Association of the American Chemical Industry, Inc., (SAACI), New York.

Officers: president, Preston F. Tinsley—Chlor-Alkali Division, Food Machinery and Chemical Corp.; vice-president, Charles E. Griffith – R. W. Greeff and Co., Inc.; treasurer, Paul E. McCoy – American Potash & Chemical Corp.; secretary, Arthur C. Curran – Meer Corp.

Directors: Richard C. Schleck – Nitines, Inc.; John A. Flobeck – Diamond Alkali Co.; James E. Shand—plastics division, Allied Chemical Corp.; James S. Auchincloss – Schnell Publishing Co.; George M. O'Brien – U. S. Industrial Chemicals Co., division, National Distillers & Chemical Corp.; V. Eric Johnson – Chas. Pfizer & Co.

—★—

### Wax Firm Changes Name

Dolan Maintenance Products Co., 805 East 139th St., New York City, is the newly adopted name of Dolan Wax Co., it was an-

John Dolan

nounced recently by John Dolan, executive vice-president.

Dolan Wax Company was formed as a division of Wilbert Products Co., and Certified Extracts, Inc. in 1956 to specialize in products for industrial cleaning and building maintenance. The Dolan line is sold through sanitary and maintenance supply jobbers. The firm presently has plants in New York City and New Jersey.

Wilbert Products Co., parent company of Dolan, has been manufacturing cleaning chemicals and compounds for almost half a century for the household market. Dolan is an international organization with offices in Europe and South America. Its products include: liquid polymer floor finishes, floor waxes, disinfecants, furniture polishes, glass and general cleaners, and "Dolanite," a polymer gel for dry floor maintenance.

Other officers of Dolan Maintenance Co. are: William Dolan, vice-president — sales, and Albert Kravitz, national sales manager.

—★—

**New PPG Division**

Columbia-Southern Chemical Corp., a wholly-owned subsidiary, became a division of Pittsburgh Plate Glass Company on Jan. 1, it was announced recently by David G. Hill, president of the parent firm. The new division operates under the name Pittsburgh Plate Glass Company, Chemical Division.

The principal officers of Columbia-Southern Chemical have been elected as officers of PPG; Joseph A. Neubauer becomes vice-president and general manager, chemical division, and Chris F. Bingham becomes vice-president, chemical sales.

The chemical division continues to market its products under the trade name "Columbia-Southern Chemicals." These products include chlorine, caustic soda, soda ash, solvents, silica pigments, chrome chemicals, and barium chemicals.

**Charles Solly Dies**

Charles B. Solly, 73, for many years owner and head of Harley Soap Co., Philadelphia, died Dec. 19 at his home in Jenkintown, Pa. Mr. Solly, who spent virtually his entire business life in sales, was appointed manager of Harley Soap Co. in 1923 soon after the firm had gone into bankruptcy. Shortly thereafter he acquired control of the firm and became president. He remained in this post until 1953, when his son, Robert, was named president. Mr. Solly then became secretary and treasurer.

Prior to joining Harley, Mr. Solly had been a sales representative for Puritan Soap Co., Rochester, N. Y., for about seven years. He had also, at one time, worked for Pittsburgh Plate Glass Co.

Mr. Solly was active in a number of trade associations, including the Association of American Soap & Glycerine Producers, National Association of Insecticide & Disinfectant Manufacturers, National Sanitary Supply Assn., and was a charter member and first treasurer of the Potash Soap Assn. He had been active in the affairs of the National Sanitary Supply Assn. since about 1928, and attended one of NSSA's early conventions in Camden, N. J. He served as a director of the National Sanitary Supply Assn. in 1954-55. Mr. Solly was also a past president of the Philadelphia Automotive Boosters Assn. and was a member of the Frankfort Kiwanis Club.

In addition to his son, Mr. Solly is survived by his widow, Ethyl Dorey Solly; and a daughter, Mrs. Doris J. Kreamer of Washington, D. C.

—★—

**Dura Unveils New Waxes**

A series of new oxygenated hydrocarbon waxes for use in the polymer floor finish field have just been introduced by Dura Commodities Corp., 20 Vesey Street, New York 7. Described as snow white, ash free, emulsifiable hard waxes the "Eftons" are oxygenated by a novel method said to prevent formation of color bodies thus dispensing with bleaching.

In addition to the floor polish field, where the new materials are said to supplement the properties of emulsifiable polyethylene, the "Eftons" are claimed to show promise in nonionic polyethylene textile softening emulsions. Three grades are currently available in commercial quantities at prices ranging from 35 cents to 37 cents per pound, according to quantities purchased.

Three additional grades are offered in sample quantities for laboratory evaluation. One of these, "Efton BM" is said to increase non-slip properties of floor polishes based on hard polymers or waxes without impairing dry-bright characteristics or stability. This material is suggested also for consideration by formulators of shoe dressings and leather finishes where it may substitute for natural beeswax.

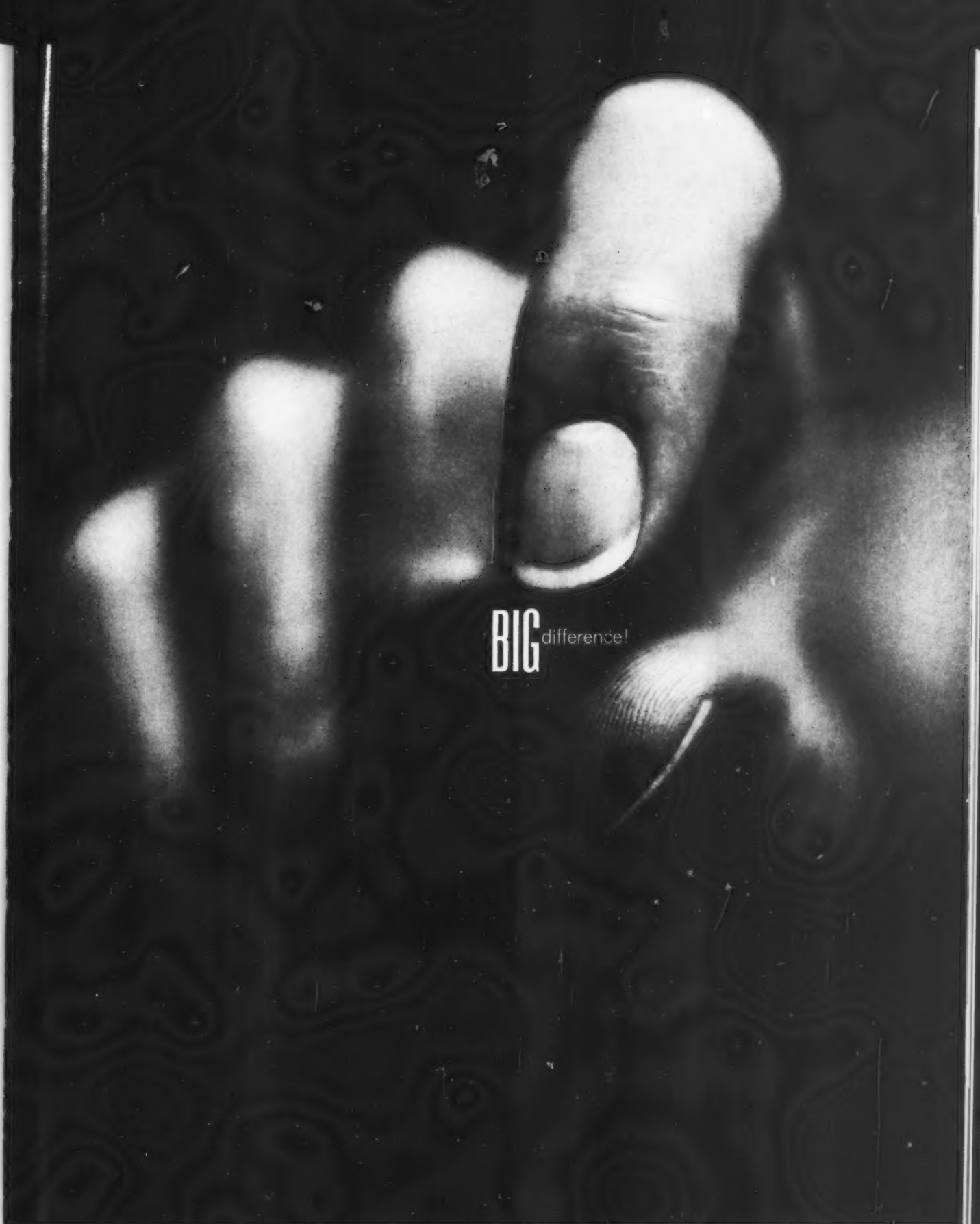
—★—

**New Soap Packaging Specs**

The Federal Supply Service of the General Services Administration recently proposed an interim amendment to Federal Specification P-S-624f, Soap, Toilet, Liquid and Paste. The amendment is concerned with the packaging of liquid and paste toilet soap. It stipulates that one gallon, five gallon and 55 gallon containers for liquid and one gallon and five gallon containers for paste must be new and lays down the type of interior lining required as well as other details. Standards for larger units for paste soap are given.

Two pound and eight pound cans for paste must also be new and comply with the standard laid down for interior coatings.

Details regarding the proposed amendment may be obtained by communicating with F. J. Frattali, Specifications and Standards Branch of the Standardization Division of GSA, Washington 25, D. C.




The big difference is often made by the smallest difference. The big difference in sales, in customer loyalty, in consistent performance. Creating fragrance is a business of small differences. Two "lilacs" do not smell alike. Yet both are unmistakably "lilac". That immeasurable, indefinable difference is the difference between product success and product failure. That sales-compelling difference is the difference to which Felton devotes its car a difference achieved through upwards of thirty-eight years of perfume experience. Send for the man from Felton. Let him help you give y product the little difference that makes all the difference in brand loy Felton Chemical Company, Inc., 599 Johnson Avenue, Brooklyn 37, New Y

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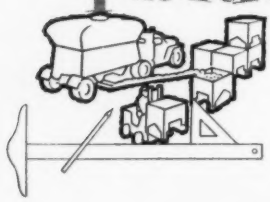
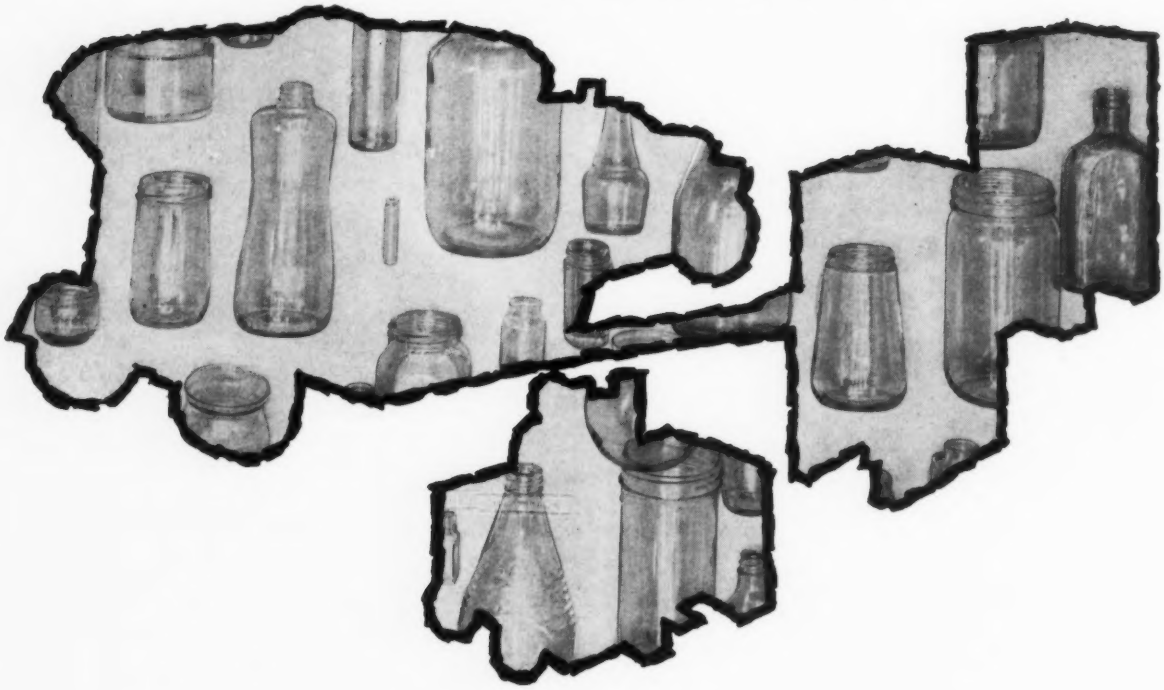


**OF SODA ASH HANDLING SYSTEMS ANTICIPATES INDUSTRY'S GROWING NEEDS**



WEST END is constantly developing new techniques for more efficient and economical handling of soda ash designed to customers' individual requirements. A current West End project involving bulk and semi-bulk unloading and handling systems enables many users of packaged soda ash to benefit from lower bulk prices and reduce their in-plant handling costs.

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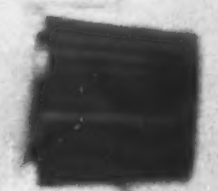

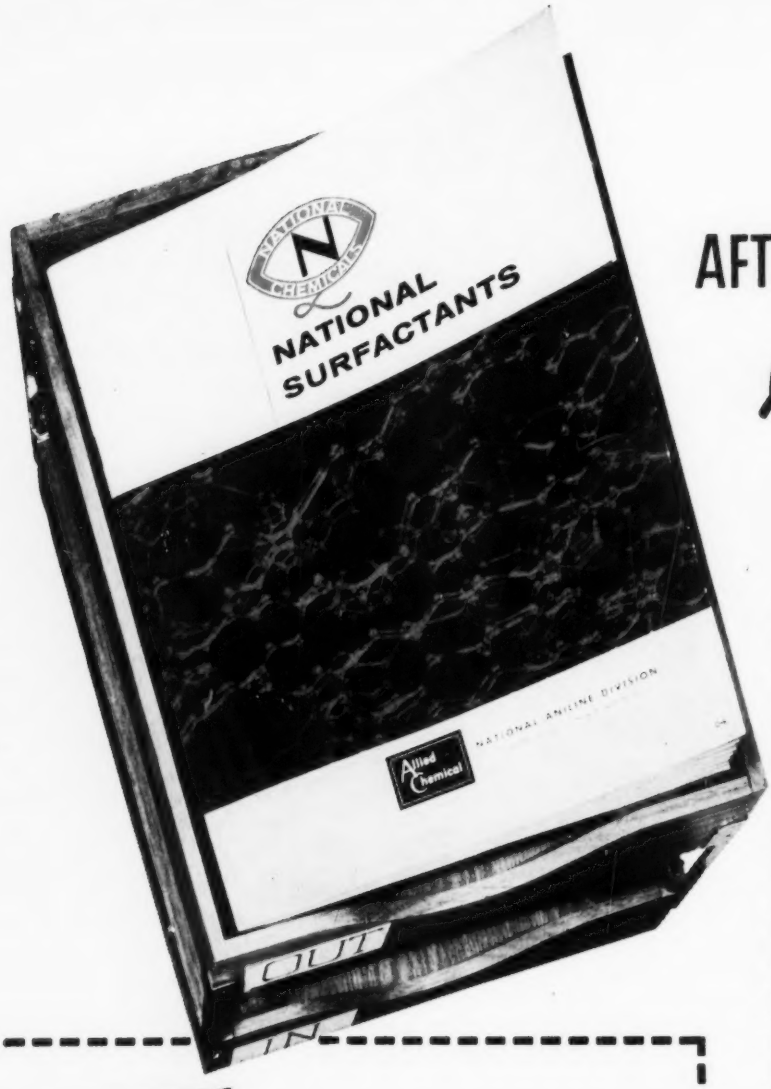


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It contains a thorough discussion of 17 NACCONOL® Alkyl Aryl Sulfonates and other National® Surfactants, including a summary of physical properties and typical uses. The appendix graphically details solubilities, surface tension of aqueous solutions, interfacial tension of aqueous solutions vs. mineral oil, wetting-out ability, foaming at various degrees of water-hardness, detergency and pH values.

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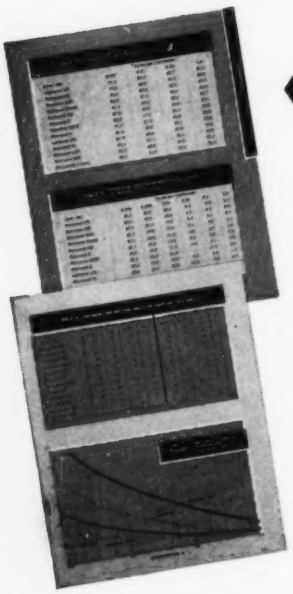

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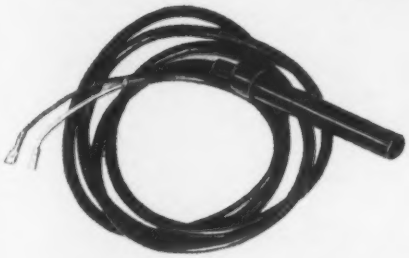

***Model DC100 Detergent Control***

Automatically controls amount of detergent fed into a dishwashing machine. Simplified electrical circuit of sturdy components, coupled with a conductivity cell, responds to conductivity of wash solution which varies with detergent concentration. Green lamp indicates "power on"; red lamp signals need for more detergent. Three-part unit consists of: control head; transformer, and dip-type conductivity cell.

## DEMA INTRODUCES A COMPLETE LINE OF LIQUID FEEDERS AND INJECTORS

Four new mechanical dishwashing accessories: *On the left* . . . Dema's new Electric Controller; *on the right* . . . Dema's new proportional Rinse Injector; *below* . . . two new Liquid Dishmachine Detergent Feeders.

Each has an important place in today's mechanized kitchen . . . each is promotionally priced and engineered for easy installation.

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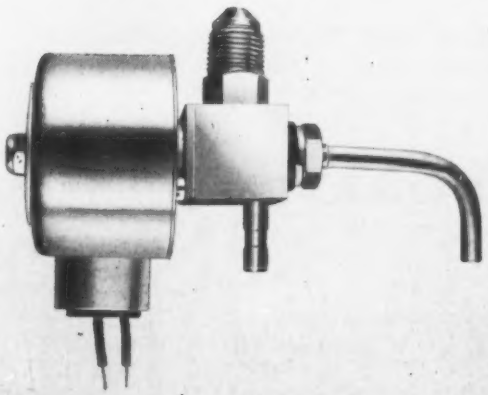
***Model 224 Rinse Injector***

Injects accurately metered amounts of rinse additive in direct proportion to the flow of water — not at a fixed rate. Has no electric wiring or moving parts . . . installs on either side of rinse valve . . . flow meter shows injection rate. Operates dependably on high or low water pressure. A two-stage venturi is utilized for positive injection. Additive supply is easily replenished while machine is functioning. Bottle holder adjustable for containers up to one quart in size.

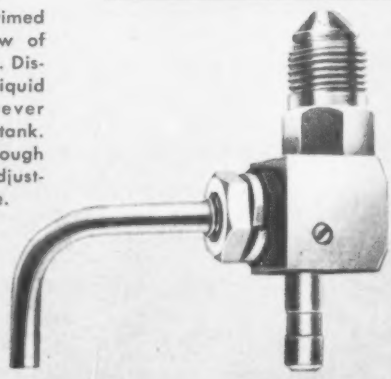
***Model 219 Liquid Feeder***

Dispenses liquid dishmachine detergent from any size bulk container through polyvinyl tube and discharges directly into wash tank. Integral solenoid water valve, responsive to electric controller, controls admission of a small flow of water to actuate feeder. Mounts readily to side of dishwasher.



***Model 217 Liquid Feeder***

Automatic liquid controller, timed and actuated by a small flow of water bled from final rinse line. Dispenses a pre-set quantity of liquid dishmachine detergent whenever fresh water is added to wash tank. Connects to bulk container through polyvinyl tube. Feed rate is adjustable for any machine and cycle.



# Hooker...prime source for better phosphates

Hooker, with plants at three locations, can provide ample supplies of phosphates. These products are of high purity and are available in both bulk and in bags. Typical of Hooker quality is our sodium tripolyphosphate, 98% pure—highest in the industry.

As a prime producer of sodium tripolyphosphate, tetrasodium pyrophosphate, trisodium phosphate and tetrapotassium pyrophosphate, Hooker is in a unique position to meet the needs of soap and detergent manufacturers anywhere in the country.

**ADVANTAGES OF HOOKER PHOSPHATE GRANULES**
No matter how you compound your own product, you'll find it advantageous to use Hooker phosphates. If your product is prepared as a slurry and then spray-dried in your own tower, you get the advantage of faster dissolving without lengthy agitation.

CLEARER SOLUTIONS. Where color is important, Hooker's virtually haze-free phosphates meet exacting requirements.

DUST FREE. Hooker's sodium tripolyphosphate and tetrasodium pyrophosphate are freer from dust because they are spray-dried into hollow, ball-like particles. There are no sharp edges to break or crumble. Your own workmen and those of your customers will be spared the annoyance of phosphate dust. Also available in regular density, as are sodium hexametaphosphate and trisodium phosphate.

**NO PREMIUM PRICE FOR PREMIUM QUALITY**
To check on our premium quality, ask for samples. To check our prices, ask for price sheets.

HOOKER CHEMICAL CORPORATION
PHOSPHORUS DIVISION, BOX 326, DEPT. SC-1, JEFFERSONVILLE, INDIANA
SALES OFFICES: CHICAGO, ILLINOIS • NEW YORK, N. Y.

HOOKER CHEMICALS PLASTICS

# *Bouquet Contessa...*

## Penick's newest floral fragrance!

One of the most elegant and delightful mixed florals we've ever offered!

We're pleased to recommend it for a wide variety of toiletries, cosmetics and household preparations. Low concentrations impart a blend of dew-fresh fragrances in pleasingly subtle accents.

BOUQUET CONTESSA is compatible with most formulations and stable in aerosols.

Be sure to write for a generous sample today!

PENICK

*Perfumes, Flavors and Aromatics Department*

S. B. PENICK & COMPANY • 100 CHURCH ST., NEW YORK 8 • 735 W. DIVISION ST., CHICAGO 10

# PILOT HD-90

## SELF STABILIZING SUDS

Stronger bubbles are longer lasting bubbles, and Pilot HD-90 gives thicker-wall bubbles. To formulators this means *less foam stabilizers* needed to do the job, and a significant product-cost-saving.

Pilot builds-in the high sudsing, self stabilizing character with the singular "cold processing" technique—eliminated are undesirable side reactions, and rearrangement of molecular structure. Thus, dry flowing, dust-free HD-90 is *colorless and odorless.* You'll save, on dyeing and perfuming.

Because of its processing, HD-90 is purer: 90% minimum active, Akyl Aryl Sulfonate, which does a kind of cleaning on many hard surfaces that no other material can do at any concentration! That's *maximum quality level!*

Write for information on the *flexibility of formulating* with Pilot HD-90.

LEADS THE WAY TO BETTER PRODUCTS
PILOT

**PILOT** *Chemical Company of California*

P.O. BOX 22130 • LOS ANGELES 22

when you need

# CAUSTIC *FAST*

. . . call

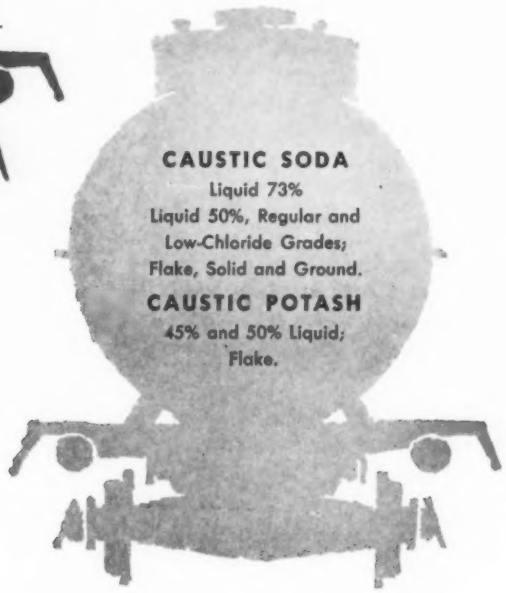
# FMC® *FIRST!*

*the time we save may be your own*

With one of the biggest electrolytic caustic-chlorine plants in the industrial east . . . situated for fast access to railway mainlines, waterways and highways . . . we can give you superior service on both NaOH and KOH.

Since we frequently supply many customers faster than producers who are closer as the crow flies, we may be able to save as much time from order-to-delivery for you, too.

To find out, call us first the next time you need quick service on a spot shipment.




*Putting Ideas to Work*

FOOD MACHINERY AND CHEMICAL CORPORATION

Chlor-Alkali Division

General Sales Offices:

161 E. 42nd STREET, NEW YORK 17

*For pinpoint properties in your products, consider Monsanto surface-active agents:*

# 4 NEW STEROX® NONIONICS — ALKYL PHENOL CONDENSATES

Now, in many types of products, you can "zero in" even closer on a number of properties to boost performance and sales appeal. Monsanto has added four new alkyl phenol-type nonionics to its STEROX line of surface-active agents.

New STEROX DF, DJ, NJ and NL were developed to give consistent performance and genuine economy. They are stable in acidic and alkaline media, even at elevated temperatures, and are effective in both hard and soft water. They provide *specific advantages* where low odor, low color and good detergency are wanted; and also where emulsification, wetting, foaming characteristics or solid contact is important.

To discover the specific advantages to you, check the [illegible] here. Then use the convenient coupon to get [illegible]on, samples and technical help. Or simply call your nearest Monsanto representative or service-minded distributor.

Monsanto

[illegible]MPANY

[illegible] Missouri

[illegible] Sheets on new STEROX DF, DJ, NJ and NL.
[illegible] Copies of Card describing *16* STEROX and SANTOMERSE

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]ty Zone State

Monsanto STEROX

# DF

| Ethylene oxide adduct of: | dodecyl phenol |
|---|---|
| Color, APHA (typical) | 180 |
| pH, 1% solution (typical) | 7.0 |
| Cloud Point, °C. (1% solution) | below 0 |
| Foam, Ross Miles, cm. (0.1% @ 50°C.) | |
| 25 ppm water, inst. | 2.0 |
| after 5 min. | 1.9 |
| 150 ppm water, inst. | 1.8 |
| after 5 min. | 1.7 |
| Surface Tension (0.25% @ 25°C.) | 32.7 |
| Interfacial Tension (0.25% @ 25°C.) | 2.3 |
| Spreading Coefficient | —0.5 |
| Draves Wetting Time, sec. (0.25% @ 25°C.) | 75 |

Solubility... Miscible with water in all proportions. Soluble in many nonpolar solvents. Functions well wherever a surfactant would be desirable in oils or aliphatic solvents.

Other Promising Characteristics... Valuable intermediate for sulfation. Conversion produces high-foaming active ingredients especially suited for liquid detergents. Unreacted, it is a low-foaming surface-active agent for use *per se* and an excellent emulsifier.

Typical uses... In liquid detergents, emulsifiable toxicant concentrates, metal cleaning and treating compounds; as a paper rewetting agent and an emulsifier in a variety of applications.

Monsanto STEROX

# DJ

| Ethylene oxide adduct of: | dodecyl phenol |
|---|---|
| Color, APHA (typical) | 100 |
| pH, 1% solution (typical) | 7.0 |
| Cloud Point, °C. (1% solution) | 40 |
| Foam, Ross Miles, cm. (0.1% @ 50°C.) | |
| 25 ppm water, inst. | 2.9 |
| after 5 min. | 2.5 |
| 150 ppm water, inst. | 2.8 |
| after 5 min. | 2.5 |
| Surface Tension (0.25% @ 25°C.) | 34 |
| Interfacial Tension (0.25% @ 25°C.) | 1.9 |
| Spreading Coefficient | −1.4 |
| Draves Wetting Time, sec. (0.25% @ 25°C.) | 12 |
| Detergency, unbuilt @ 60°C., 0.2% in 150 ppm water, as % lauryl sulfate | 102 |

Solubility... Soluble in water and most polar solvents, but generally insoluble in nonpolar solvents.

Other Promising Characteristics... Low foam and high chemical stability are combined with effective functional properties and ease of use. Lack of odor typically associated with this type of surface-active material makes perfuming easier—helps build market appeal for your products.

Typical uses... In liquid and powdered detergents, chemical processing, textile dyes and scouring agents, and numerous compounds for metal cleaning and treating, paper de-inking, felt washing and other wet processing operations.

Monsanto STEROX

# NJ

| Ethylene oxide adduct of: | nonyl phenol |
|---|---|
| Color, APHA (typical) | 50 |
| pH, 1% solution (typical) | 7.0 |
| Cloud Point, °C. (1% solution) | 54 |
| Foam, Ross Miles, cm. (0.1% @ 50°C.) | |
| 25 ppm water, inst. | 12.9 |
| after 5 min. | 8.3 |
| 150 ppm water, inst. | 12.7 |
| after 5 min. | 8.0 |
| Surface Tension (0.25% @ 25°C.) | 34.8 |
| Interfacial Tension (0.25% @ 25°C.) | 2.9 |
| Spreading Coefficient | −3.2 |
| Draves Wetting Time, sec. (0.25% @ 25°C.) | 5 |
| Detergency, unbuilt @ 60°C., 0.2% in 150 ppm water, as % lauryl sulfate | 102 |

Solubility... Soluble in water and most polar solvents, but generally insoluble in nonpolar solvents.

Other Promising Characteristics... Exceptionally light colored, this "wheel horse" nonionic is effective *per se* as an emulsifier and as a light-duty detergent for hard surfaces. In combination with SANTOMERSE alkyl aryl-sulfonates, it exhibits foam-stabilizing effects, and produces a denser foam than that obtained with alkyl aryl sulfonates alone.

Typical uses... In liquid and powdered detergents, insecticides, and in numerous compounds for textile, paper and leather processing, chemical processing, petroleum acidizing and secondary recovery.

Monsanto STEROX

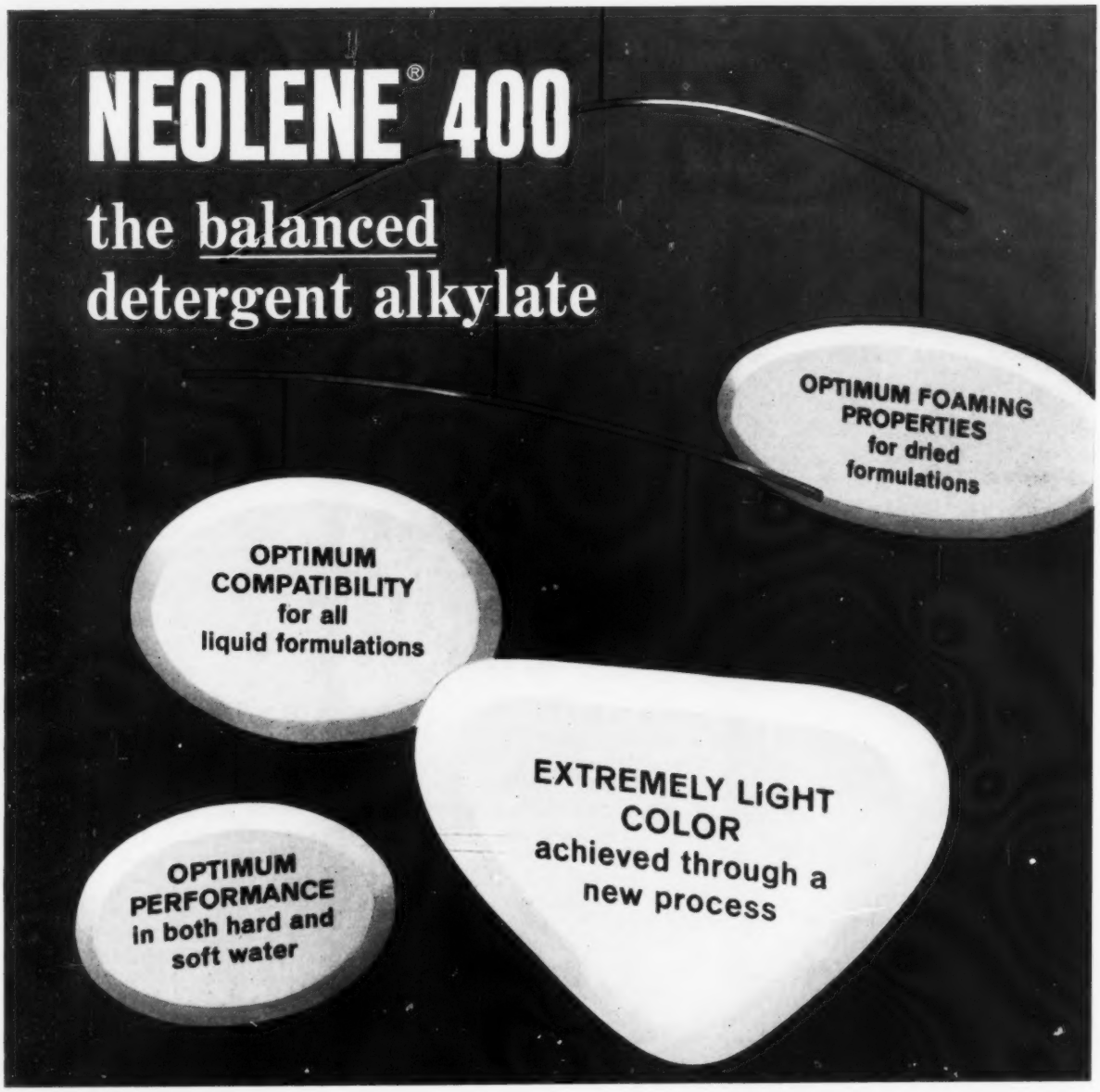
# NL

| Ethylene oxide adduct of: | nonyl phenol |
|---|---|
| Color, APHA (typical) | 100 |
| pH, 1% solution (typical) | 7.0 |
| Cloud Point, °C. (1% solution) | 76 |
| Foam, Ross Miles, cm. (0.1% @ 50°C.) | |
| 25 ppm water, inst. | 15.5 |
| after 5 min. | 8.8 |
| 150 ppm water, inst. | 15.6 |
| after 5 min. | 8.6 |
| Surface Tension (0.25% @ 25°C.) | 36.2 |
| Interfacial Tension (0.25% @ 25°C.) | 4.3 |
| Spreading Coefficient | −6.0 |
| Draves Wetting Time, sec. (0.25% @ 25°C.) | 7 |
| Detergency, unbuilt @ 60°C., 0.2% in 150 ppm water, as % lauryl sulfate | 103 |

Solubility... More soluble than Sterox NJ. Especially useful in solutions containing inorganic salts or SANTOMERSE® alkyl aryl sulfonates.

Other Promising Characteristics... Primarily designed for use in liquid detergents. Exceptionally valuable for this application in combination with Monsanto TKPP. Effective *per se* as an emulsifier and light-duty detergent for hard surfaces. In combination with SANTOMERSE alkyl aryl sulfonates, it exhibits foam-stabilizing effects and produces a denser foam than that obtained with alkyl aryl sulfonates alone.

Typical uses... In liquid detergents, industrial cleaners, textile scouring and soaping-off compounds, many specialty products; as a post-polymerization latex paint stabilizer.


NEOLENE® 400
the balanced
detergent alkylate
OPTIMUM FOAMING PROPERTIES for dried formulations
OPTIMUM COMPATIBILITY for all liquid formulations
EXTREMELY LIGHT COLOR achieved through a new process
OPTIMUM PERFORMANCE in both hard and soft water

NEOLENE 400 continues to be the intermediate relied upon by the world's leading manufacturers of liquid and dry anionic detergents. NEOLENE 400 is an alkyl aryl hydrocarbon with an apparent molecular weight of 237. Extensive tests indicate that branch chain alkylates with a molecular weight in the 230 to 240 range give the most satisfactory balance of the factors important in the finished product: high detergency, rinseability, wetting and low hygroscopicity.

We are prepared to discuss at length with you our research data and certain conclusions which could be of vital importance to you in your formulations.

Tailor-made NEOLENE 400 is the most satisfactory all-round detergent intermediate manufactured *anywhere* today.

***For chemicals with a head start on the future... count on CONOCO!***

CONOCO **CONTINENTAL OIL COMPANY** PETROCHEMICAL DEPARTMENT
1270 Avenue of the Americas, New York 20, New York • JUdson 6-3430

# as the editor sees it...

## OUTLOOK

As 1961 gets under way, we find far less enthusiasm than a year ago. We note considerable "viewing with alarm" among economists, bankers, et al. But as far as the detergent, soap and household chemical specialties business is concerned we detect a quiet optimism, a feeling that on the whole things are pretty good and are likely to stay that way through 1961.

In many lines, American manufacturers have in effect priced themselves right out of world markets. This is especially true in some hard goods. But soap and household chemical people have not made this mistake, if it can be classified as such. Competition has continued sharp in detergents and chemical specialties and has held prices down. Good old competition! Maybe it's been a blessing in disguise. Plus the fact that the labor cost in producing a ton of soap is proportionately much lower than for a ton of fabricated steel.

The greatest danger in our opinion to the future of the American economy is steadily rising labor costs. They are outreaching productivity. But in soaps, detergents, chemical products, labor costs are less a factor. All told, we would say the outlook for 1961 in detergents and the like is excellent. The future stands on a firm foundation of good management and sound judgment.

* * * * *

## DETERGENTS

Among all-purpose detergents, liquids are preferred by a majority of housewives, according to a survey made by Owens-Illinois. For cleaning floors, painted surfaces, stoves, porcelain, for laundering, for spot removal, liquids won the nod. Only 13 per cent indicated a preference for dry products. About one-third stated that they had no choice between liquid and dry. Convenience in use appeared to be the dominant reason for the choice of liquids by the majority.

Quart and pint sizes were reported to be the popular sizes, but 26.9 per cent stated that they would be interested in buying liquids in gallon or half-gallon containers. This finding of the O-I survey is at variance with our own observations which show the larger sizes too heavy to handle especially with wet hands and inconvenient to store in the home kitchen. Brand loyalty did not fare too well in the survey. Over 41 per cent had no preference for a specific brand. Forty per cent had not purchased a bottle of heavy-duty liquid detergent prior to six months ago.

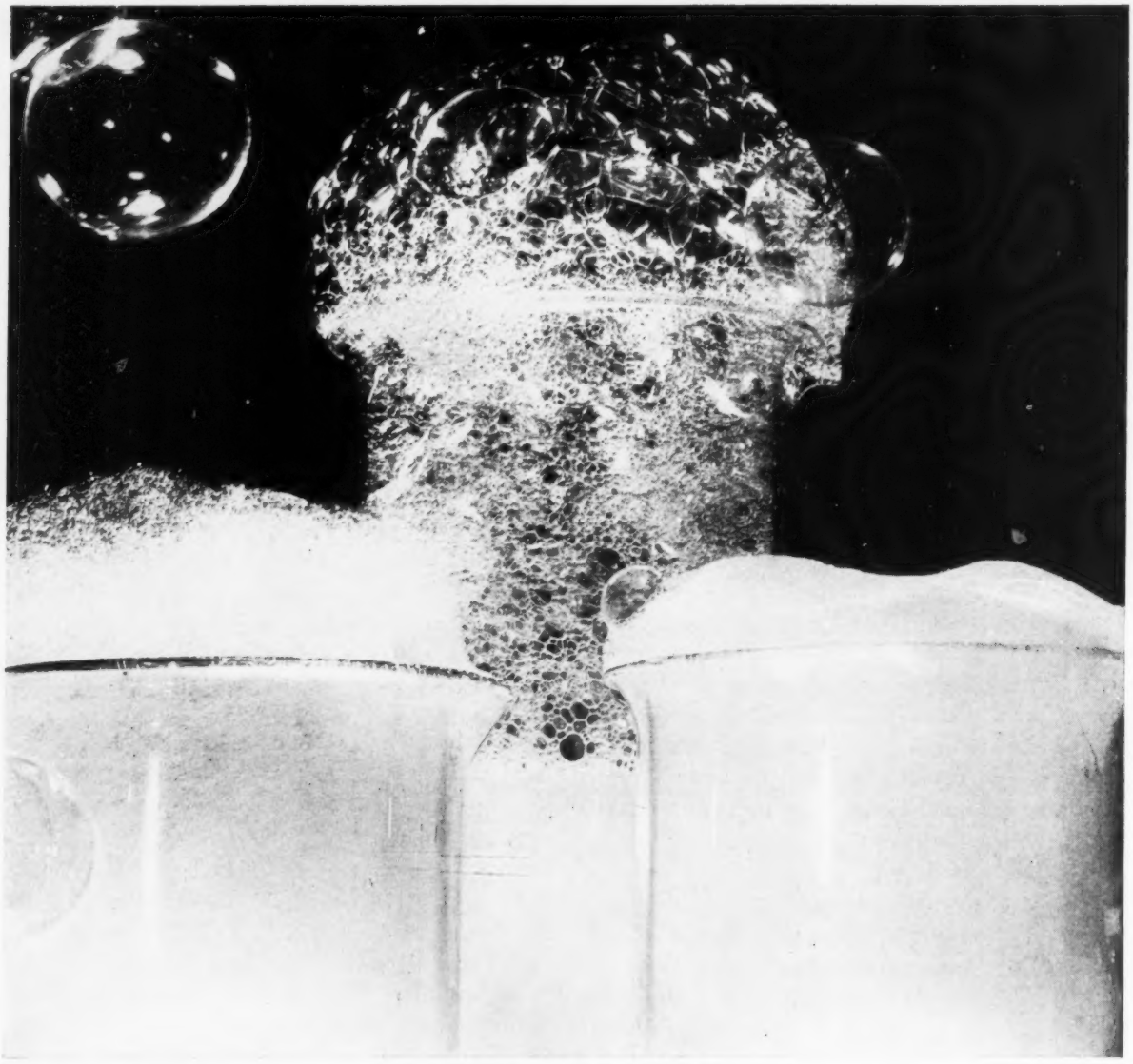
One-third of those consulted stated that there was nothing they particularly disliked about all-purpose liquids. The balance, however, registered complaints such as too expensive, too strong, too harsh on hands, too hard on surfaces cleaned, disagreeable odor. But complaints or no, sales for liquids continue to zoom upward as industry sales figures show, probably the truest answer to consumer preference.

* * * * *

## CONVENIENCE

For ordinary packages, bottles, cans and the like used in the household, surveys always seem to show that those which can be handled easily, quickly and without spilling or dripping are preferred. Containers which are too large or too heavy for the average housewife to handle easily are not liked even though they may be bought and used. With this in mind, we have a feeling that some of our liquid detergent bottles, some cartons and cans for other products are more inconvenient to use than their marketers realize.

Giant sizes of many packages obviously have their greatest appeal in economy. Beyond that, there is not too much, if anything, to recommend them. Not only are they frequently too heavy and difficult to handle, but the problem of where to store them raises an additional question. The builders of kitchen cabinets we feel did not have giant sizes in mind when they spaced out shelf heights. We have a hunch that most housewives would prefer to spend a little more for two small packages than to have the large economy size standing around because there is no place to store it.



# Bubbles are 99% air... but they mean a lot to the man who buys them

And bubbles are one of the things your customer buys when he orders your detergents or other surfactants. In the illustration above, for example, the foam shown at the left is appropriate for a car-washing compound. The one in the middle is more suitable for a bubble bath. And the one at the right is ideal for a shampoo.

Ultra can supply you with not only the right foam characteristics but also all the other properties you need in compounding practically any detergent or other surface active material—whether it's for play, like a child's bubble liquid—or as practical a product as a low-sudsing floor cleaner or an air-entraining agent for concrete and gypsum wall board.

From the broad line of Ultra surfactants—including Sulframin® alkyl aryl sulfonates, Ultrapole® amine condensates and Ultra xylene and toluene sulfonates—you can choose the compounds that best meet your requirements for detergency, foam, color, clarity, solubility and physical form. Choose from liquids, slurries and spray- or drum-dried solids.

Like further details? Phone or drop us a note. We'll be glad to answer any questions you may have or supply a copy of our comprehensive new brochure.

**Ultra Chemical Works, Inc.,** Division of Witco Chemical Co., Inc., 2 Wood Street, Paterson, N. J.

A quart of liquid detergent weighs over two pounds and presents quite a problem to handle with a small, wet hand. For the effete who wear rubber gloves, it's even more difficult. Before we get into the matter of still larger super-duper economy sizes let's figure where they may stack up under normal conditions of use.

* * * * *

## TRADING STAMPS

To be sure that we had read the announcement correctly, we read it the second time. Yes, sir, there it was right in black and white. Trading stamps, not with a few cakes of soap or a can of stove polish at the supermarket, but with industrial purchases, solvents, chemicals, what not. And these stamps can be redeemed "for all types of valuable merchandise, including industrial equipment." As far as we know, the first firm to offer these industrial trading stamps is one selling metal and industrial cleaning materials and equipment.

That this first offer of trading stamps on industrial materials, a car of caustic soda or a tank of diethylene glycol, took us by surprise is to put it mildly. Then we thought, maybe our friends could also give stamps on a drum of floor scrub or wax, or a barrel of dishwashing compound. But who gets the prize? Who cashes in the stamps for that gold-plated toothpick or kitchen mixer with three speeds? How many stamps would you have to collect to get a piece of equipment, a filter or a portable mixer?

The audacity of this offer of trading stamps, the same kind they give you in the supermarkets, left us stumbling in the aisle sort of gasping for breath. What in the name of merchandising progress will come next?

* * * * *

## COMPLIANCE

One feature of the new hazardous substances labeling law which we had overlooked is the solicitation by some laboratories of chemical, toxological and other tests for all chemical specialty products "even if they appear to be harmless." It is pointed out that these tests on record protect the manufacturer if any questions are raised relative to his compliance with the law. That, in itself, is a slight exaggeration. No test *per se* will protect the manufacturer. Such could only give him a false sense of security.

But the thing which annoyed us chiefly was mention of the fact that some retail merchants are "being urged" by their trade associations to request guarantees from manufacturers that their product labels comply fully with the new law. Repeated requests of such a nature are bound to scare the pants off the average manufacturer, especially ones without extensive legal staffs. And the retailer will naturally ask for guarantees and warranties if somebody suggests it to him.

We have no grudge against anybody going out after business, but in one or two instances of laboratory testing services, we detect an undercurrent of thought which is designed primarily to scare manufacturers into having all their products tested and to scare the dealer into demanding warranties. We don't feel either is as yet justified.

* * * * *

## NEW LAWS

Most of our state legislatures are or will be meeting early this year. Being an odd-numbered year, 1961 will see many new laws enacted, some good, some not so good. As far as the chemical specialties manufacturer is concerned, we believe that most of the legislation will concern automotive brake fluids and hazardous substances. Because we already have a hazardous substances law on the federal books, the chances are that most states will follow the pattern of the federal law. At least, we hope so.

As for legislation to outlaw substandard brake fluids, about one-third of our states already have statutes of this nature. We anticipate that numerous other states will follow suit in 1961. At the moment, the subject is a hot one with the extension of state brake fluid legislation favored by the Society of Automotive Engineers and the Chemical Specialties Manufacturers Association. Both of these organizations will be on the alert to see that proper laws are passed. Their interest stems wholly from a desire for greater road safety through the elimination of substandard products.

As for other laws that may be proposed, we imagine that they will be many. Here is where the alertness of our trade associations can and will stand between the manufacturer and undesirable legislation. They are still industry's best anchor to windward.

U.S.I.
ETHYL ALCOHOL
You can get every formula the government approves . . . from U.S.I. Package sizes range from 10,000-gallon tankcars to one-gallon cans. Delivered fast from U.S.I. denaturing plants, warehouses and distribution points throughout the country.
• Specially Denatured Alcohol—Anhydrous and 190 proof, all formulas.
• Proprietary Solvent SOLOX®—Anhydrous and Regular.
• Completely Denatured Alcohol—for industrial use and anti-freeze, both formulas anhydrous and regular.
• Pure Ethyl Alcohol — U.S.P. 190 proof and N.F. Absolute, tax-free and tax-paid.
U.S.I. ETHYL ETHER
You can order U.S.P., Absolute A.C.S., and Technical Refined grades from U.S.I. Shipments from the Tuscola, Ill., plant range from five-gallon drums to 8,000-gallon tankcars. Drums are stocked conveniently at U.S.I. warehouses across the nation.
U.S.I. $H_2SO_4$
U.S.I. CAUSTIC SODA
U.S.I. CHLORINE
U.S.I. AMMONIA
U.S.I. POLYETHYLENE RESINS
U.S.I. INDUSTRIAL CHEMICALS CO.
Division of National Distillers and Chemical Corp.
99 Park Ave., New York 16, N. Y.
Branches in principal cities

# as the reader sees it...

### *"Approved Lists" Editorial*

Your editorial on "Approved Lists" in the November, 1960, issue of *Soap and Chemical Specialties* was very interesting.

We would greatly appreciate receiving about six copies of this editorial.

M. K. Jeffrey,
Sales Manager
Peerless Chemical Co.
Detroit

—★—

### *Wants "M-1960" Repellent*

Editor:

A general article on progress in insect control by W. C. McDuffie was published beginning on page 85 of the September, 1960, issue of *Soap and Chemical Specialties*. Under the subhead, "Protection from Biting Pests" (p. 121), a new repellent called "M-1960" is mentioned in which we would be interested. Please let us know the name and address of its manufacturer so that we may obtain from him all the scientific and commercial information about the repellent.

J. de Vuyst,
A. Christiaens, S.A.,
Brussels,
Belgium

*As far as we are able to determine this product is not available commercially. Ed.*

—★—

### *No Jump*

Editor:

In the November, 1960, issue of *Soap and Chemical Specialties*, there is an article by A. F. McKay, "Novel Bacteriostats Previewed," which begins on page 99, continues on pages 101 and 103, and the latter page is marked "turn to page 109." There is no continuation of the article on page 109. I have searched other pages for the rest of the article but have not been able to find it. I assume that it was omitted. Would you kindly send me four copies of the part that was not published.

W. P. Muro,
Technical Manager,
Textile Chemicals Department
American Cyanamid Co.,
Bound Brook, N. J.

*Through an oversight in making up page 109 we omitted the references of Dr. McKay's article. For the benefit of Mr. Munro and other readers who may wish to have them, the references are reproduced below. Ed.*


1. *Chemical and Engineering News 37*, 21 November 9, 1959.

2. *Chemical Products, 23*, 441 (1960).

3. C. M. Suter, Medicinal Chemistry, John Wiley and Sons, Inc., New York, N. Y., 1951 p. 245.

4. B. R. Das, P. A. Kurup and P. L. N. Rao, *Naturwissenschaften, 41*, 66 (1954).

5. A. F. McKay, D. L. Garmaise, R. Gaudry, H. A. Baker, G. Y. Paris, R. W. Kay, G. E. Just and R. Schwartz, *J. Am. Chem. Soc., 81*, 4328 (1959).


—★—

### Trading Stamps Offered

Circo Corp., New York, producer of industrial cleaning equipment and chemicals, announced recently it will offer S&H Green Stamps to its industrial customers. This step is an innnovation in the industrial marketing of chemicals.

Under the plan, S&H Green Stamps will be offered to customers who purchase Circo's newly-developed degreasing and cleaning solvent "Circo-Solv M-1" trichlorethylene.

**Departing from the traditional format of groundbreaking ceremonies, Colgate-Palmolive Co., New York, marked the start of work on its new multi-million dollar research center with the aid of miniature construction equipment and a detailed terrain model. Earth and vegetation from the actual site, adjacent to the Rutgers University Science Campus near New Brunswick, N. J., were used to make the terrain mock up. Symbolic groundbreaking ceremony was attended by some 350 Colgate-Palmolive scientists and technicians at the company's research laboratories in Jersey City. Taking part in the event were (l .to r.): Leo A. Scott, vice-president for manufacturing, Dr. John R. Brown, Jr., vice-president for research and development and Lowell A. Lodgett, director of engineering.**

# How to make sure of Successful Formulation

## 1. Use Procter & Gamble products
## 2. Use Procter & Gamble formulation assistance

**Kyro EO.** A neutral nonionic synthetic detergent of the 100% alkylphenol ethylene oxide condensate type. A clear light-colored liquid with a clean, pleasant odor. Its superior detergent, wetting and emulsifying properties offer excellent performance in liquid detergents, sanitizer-detergents, self-emulsifying solvents, laundry detergents, glass, textile, and dairy cleaners, insecticides, and bottle washing compounds.

**Orvus AB Granules.** A neutral synthetic detergent, wetting and emulsifying agent of the 40% active sodium alkyl aryl sulfonate type. A white spray-dried product that can be used effectively in the blending of bubble baths, car body shampoo, dishwashing compounds, dairy cleaners, insecticides, laundry detergents, rug and upholstery cleaners.

**Orvus WA Paste.** A neutral synthetic detergent and wetting agent whose active ingredient is mainly sodium lauryl sulfate. Excellent sudsing, wetting, dispersing and penetrating properties. Ideal for paste cream and liquid cream shampoos, bubble baths, liquid detergents, liquid floor cleaners, insecticides, glass cleaners, and especially effective for rug and upholstery cleaners.

**Amber Granules.** A neutral 88%, 42°C. titer type soap of outstanding purity and uniformity. Well suited for the preparation of paste or gelled products because of its high titer. Its granular form makes it ideal for blending powdered products. Excellent for the compounding of hand cleaners, paste cleaners, polishes, and lubricants.

Procter & Gamble products offer you a proven way to simplify your formulation problems and be confident of successful results. We invite your inquiry for further information and the opportunity to forward an Industrial Catalogue. Write to:

PROCTER & GAMBLE

Manager, Bulk Soap Sales Department
P.O. Box 599, Cincinnati 1, Ohio

**Ivory Beads.** Medium titer, neutral spray-dried white soap of exceptional purity and quality. Well suited for compounding products where a mild but effective soap is required—hand soaps, polishes, protective creams, and dishwashing compounds.

**Orvus ES Paste.** A specially developed synthetic detergent whose active ingredient is mainly modified sodium lauryl sulfate. Offers exceptional efficiency and stability over a wide range of operating conditions. Its excellent wetting, penetrating, sudsing, dispersing and emulsifying properties make it well suited for the preparation of liquid shampoos, bubble baths, liquid detergents, liquid floor cleaners, insecticides, car washes, emulsion cleaners.

**Orvus K Liquid.** A highly concentrated modified ammonium lauryl sulfate—formulated for increased sudsing and mildness. Exceptionally low cloud and pour points—highly fluid and easy to handle. Ideal for clear liquid shampoos, liquid bubble bath preparations, and liquid detergents when high foaming is required.

# Detergents . . . Cleansers . . . Soaps . . .

One of the highlights of the 34th annual meeting of the Association of American Soap and Glycerine Producers in New York, Jan. 25-27, will be a panel discussion on "Marketing Industrial Products." John D. Moore, sales manager of 20 Mule Team Products Department of United States Borax & Chemical Corp., New York, will serve as moderator for the panel.

Aerosols
Detergents
Dishwashing compounds
Floor scrubs
Glycerine
Hand cleaners
Laundry soaps
Liquid soaps
Medicinal soaps
Metal cleaners
Potash soaps
Scouring cleansers
Shampoos
Shave products
Soap powders
Starch
Steam cleaners
Textile detergents
Tallolrins
Toilet soaps and other detergent and soap products

# Blockson distributor service

To serve phosphate users best, Blockson has long followed the marketing policy that the best L.C.L. service in any area is provided through the local distributor. The Blockson distributor stocks the widest selection of Blockson products and other chemicals used in his territory. Write for Blockson catalog and name of distributor nearest your plant.

**MODERN DETERGENTS MEAN PHOSPHATES, AND PHOSPHATES MEAN BLOCKSON**

***BLOCKSON CHEMICALS***

*Chemicals Division*

***Olin Mathieson Chemical Corporation***

*Joliet, Illinois*

# Soap Industry Meeting

## 34th annual meeting of Soap Association being held at Waldorf-Astoria Hotel, New York., Wed., Thur., Fri., January 25-27

THE impact of new manufacturing and marketing techniques upon the detergent, soap and allied industries will be considered at the 34th annual soap industry convention, to be held at the Waldorf-Astoria Hotel, New York, Wednesday, Thursday, Friday, Jan. 25, 26, and 27. Sponsored by the Association of American Soap and Glycerine Producers, the meeting's official theme is "Perspective 1961."

Highlight of the technical program is Thursday morning's (Jan. 26) general session at which three concurrent panel sessions will present members with a hard choice. A successful innovation at last year's convention, panel sessions will be a little more formal this year. But the association makes it clear that audience participation and informal discussion are encouraged and actually needed to make these sessions a success.

Sol. D. Gershon, development manager, household products, Lever Brothers Co., New York, will be moderator of the panel viewing "New Trends in Detergent Technology." The spotlight will be turned on "Anionics" by R. D. Stayner of Oronite Division, California Chemical Co., San Francisco; on "Phosphates" by John R. Van Wazer, Monsanto Chemical Co., St. Louis; Lester D. Berger, Jr., Union Carbide Chemicals Co., New York, will speak on "Nonionic Surface Active Agents"; Donald L. Andersen of General Mills, Inc., Minneapolis, on "Quaternaries and Amphoterics"; and R. L. Mayhew, Antara Chemical Division, General Aniline and Film Corp., New York, on "Lime Soap Dispersants."

"Marketing Household Products" will be discussed at the same time by another panel of which Phil J. Kelly, vice-president, J. H. Hickerson Public Relations, Inc., will be moderator. Panelists and their assignments will be: Charlotte Montgomery of *Good Housekeeping* magazine – "Speaking for the Housewife"; Donald A. Gannon, Stop Shop – "Chain Store View"; Ralph Alexander of Columbia University's Graduate School of Marketing – "University Marketing Viewpoint"; and Robert C. Nicholson of *Sales Management* magazine – "Packaging."

John H. O'Connell, vice-president of Hill & Knowlton, Inc., will be moderator of a panel entitled "Building 'Home-Town' Favor for Your Company." Panelists will be Edgar S. Nelson of General Foods Corp.; James L. Macwithey of Bristol-Myers Co.; Clarence J. Dover, General Electric Co.; and George H. Baker, Wyandotte Chemicals Corp.

The Fatty Acid Producers' Council and the Industrial Division will hold their business meetings on Wednesday morning, Jan. 25. Mason W. Gross, president of

**Andrew K. Forthmann,**
AASGP President

**J. David Justice,**
"Technical Advisory Council Report"

**Howard Young,**
Presides at lunch, Jan. 25

Lester D. Berger, Jr.

Rutgers University, will deliver an address at Wednesday's luncheon, to be presided over by Howard G. Young of Davies-Young Soap Co., Dayton, O.

Wednesday afternoon will be devoted to two concurrent divisional panel meetings. A panel on "Marketing Industrial Products" is scheduled by the Industrial Division with John D. Moore of U. S. Borax & Chemical Corp. as moderator. The panel will include: James E. Crawford of Monsanto Chemical Co. ("Sales Organization"); Carl T. Hoffman of McKinsey & Co. ("Sales Planning"); Henry C. Silldorff, G. M. Basford Co. ("Sales Promotion"); Henry C. Speel of Universal Oil Products Co. ("Product Development"); and Eugene J. Kelley of New York University's Graduate School of Business Administration ("University Marketing Viewpoint").

The Fatty Acid Producers' Council will hold a concurrent

R. L. Mayhew

panel meeting on the subject of "Industrial Fatty Acids and Applications."

Wednesday's program will conclude with a cocktail party at

# Program for 34th Annual Soap Industry

## Wednesday Morning, Jan. 25

### Fatty Acid Producers' Council

**Basildon Room**

10:00-12:00 Business meeting

### Industrial Division

**Jade Room**

10:00-12:00 Business meeting

## Wednesday Afternoon, Jan. 25

12:30 Luncheon — Jade Room

Address by Dr. Mason W. Gross, president, Rutgers University, New Brunswick, N. J.

### Fatty Acid Producers' Council

**Astor Gallery**

2:30-5:00

Panel: "Industrial Fatty Acids and Applications" — W. J. O'Connell, Humko Products Division, Memphis, Tenn., moderator; Panelists: Charles H. Lighthipe, Nopco Chemical Co., Newark, N. J., on "Fatty Acids as Chemical Building Blocks"; Kenneth A. Earhart, Coating Resins Consultant, New York, on "Fatty Acids Vs. Whole Oils in Alkyd Resins"; Dr. Henry Gilman, Iowa State University, on "Research on Organometallics"; Thomas E. Dowling, American Cyanamid Co., New York, on "Containers for Fatty Acid Products"; and John J. Hamel, Jr., National Renderers' Association, Chicago, on "How Renderers Are Encouraging Tallow Utilization".

### Industrial Division

**Louis XVI Suite, Room 4X-Y**

2:30-5:00

Panel: "Marketing Industrial Products" — John D. Moore, U. S. Borax & Chemical Corp., 20-Mule Team Department, moderator; Panelists: James E. Crawford, Monsanto Chemical Co.—"Sales Organization"; Carl T. Hoffman, McKinsey & Co., New York — "Sales Planning"; Henry C. Silldorff, G. M. Basford Co., New York — "Sales Promotion"; Henry C. Speel, Universal Oil Products Co., Des Plaines, Ill.—"Product Development"; Eugene Kelley, Graduate School of Business Administration, New York University — "University Marketing Viewpoint".

## Wednesday Evening, Jan. 25

5:30-6:30 Cocktail Party — Jade Room, Host: Soap and Chemical Specialties magazine

## Thursday Morning, Jan. 26

### General Session

9:30-12:15 Choice of Three Concurrent Panel Sessions

I. "New Trends in Detergent Technology" — Dr. Sol D. Gershon, Lever Brothers Co., Edgewater, N. J., moderator. Panelists: R. D. Stayner, Oronite Division, California Chemical Co., New York, — "Anionics"; John R. Van Wazer, Monsanto Chemical Co., St. Louis, Mo. — "Phosphates"; Lester D. Berger, Jr., Union Carbide Co., New York — "Nonionic Surface Active Agents"; Donald L. Andersen, General Mills, Inc., Minneapolis — "Quaternaries and Amphoterics"; and R. L. Mayhew, Antara Chemical Division, General Aniline & Film Corp., New York — "Lime Soap Dispersants".

II. "Marketing Household Products" — Phil J. Kelly, J. H. Hickerson Public Relations, Inc., moderator; Panelists: Charlotte Montgomery, Good Housekeeping magazine — "Speaking for the House-

Harry C. Speel

which *Soap and Chemical Specialties* will be host.

The convention will open formally with the general session on Thursday morning, Jan. 26. The three simultaneous panel meetings mentioned earlier will highlight the morning's program.

At 10:00 A.M. on Thursday the Glycerine Producers' Association will convene for its annual business meeting, which will in part overlap with the general session. At luncheon C. C. Tillotson, Procter & Gamble Co., will present the Glycerine Research Awards. The presentation will be followed by a talk entitled "Living with the U.N.," by Pauline Frederick, NBC News United Nations correspondent. After luncheon the Glycerine Producers' Association will have a panel meeting on "Glycerine in Pharmaceuticals and Foods" with Earl Farnham of Dow Chemical Co. in the chair. The annual Maid of Cotton fashion show is scheduled for 4:00 p.m. on Thursday.

R. D. Stayner

After the convention breakfast sponsored by *McCall's* magazine, Friday morning, Jan. 27, will

(*Turn to Page* 199)

# Meeting, New York City, January 25-27

wife"; Donald A. Gannon, Stop & Shop, Inc., Boston — "Chain Store View"; Ralph Alexander, Graduate School of Marketing, Columbia University, New York—"University Marketing Viewpoint"; and Robert C. Nicholson, Sales Management magazine — "Packaging".

III. "Building Home-Town Favor for Your Company"—John O'Connell, Hill & Knowlton, Inc., New York, moderator; Panelists: Edgar S. Nelson, General Foods Corp., White Plains, N. Y.; James L. Macwithey, Bristol-Myers Co., New York; Clarence J. Dover, General Electric Co., New York; and George H. Baker, Wyandotte Chemicals Corp., Wyandotte, Mich.

## Thursday Afternoon, Jan. 26

12:30 Luncheon — Sert Room

Glycerine Research Awards, presented by C. C. Tillotson, Procter & Gamble Co., Cincinnati, chairman of the Glycerine Research Committee; Pauline Frederick, NBC News' United Nations Correspondent on "Living with the U. N."

### Glycerine Division

Louis XVI Suite

2:30 Panel: "Glycerine in Pharmaceuticals and Foods (Including Food Films)", Earl Farnham, Dow Chemical Co., moderator; Panelists: W. F. Underwood, Visking Division, Union Carbide Corp. — "Food Packaging Films"; J. Pearson Stanley, R. P. Scherer Corp., Detroit—"Glycerine in Soft Gelatine Capsules"; Capt. Lewis L. Haynes, U.S.N. Chief of Surgery, Executive Officer, U. S. Naval Hospital, Chelsea, Mass. — "Glycerine — the Key to Suspended Animation"; Dr. Gilman N. Cyr, Squibb Institute for Medical Research, New Brunswick, N. J. — "Rx Glycerine"; and H. Birnbaum, Hachmeister, Inc., Pittsburgh — "Bread Emulsifiers".

4:00 Maid of Cotton Fashion Show — Grand Ballroom

## Friday Morning, Jan. 27

7:30-9:00 Breakfast — Sert Room — Host: McCall's

### General Session

Jade Room

9:30-12:15

Report of Technical Advisory Council, by David Justice, Lever Brothers Co., New York, chairman of the Technical Advisory Council Steering Committee

Reports of conclusions reached at panel sessions: "New Trends in Detergent Technology"; "Marketing Household Products"; "Marketing Industrial Products"; and "Building Home-Town Favor for Your Company".

"The Economic Impact of the New Administration", by Leo Cherne, Research Institute of America, New York

## Friday Afternoon, Jan. 27

12:30 Luncheon — Sert Room

"The Shape of Things to Come", by Edgar M. Cortright, National Aeronautics & Space Administration, Washington, D. C.

2:00 Association Annual Business Meeting — Sert Room

2:30 Board of Directors Meeting — Pillement Suite

## Friday Evening, Jan. 27

6:30 Reception and Cocktails — East Foyer

7:30 Annual Banquet — Grand Ballroom

"Redi-Paks" of "Tide" detergent, made by Procter & Gamble Co., Cincinnati, are now being marketed in Jacksonville, Fla. and San Diego, Calif. Water soluble film packets come in two package sizes shown in photograph.

# Water Soluble Packages

**By Fred W. Stone***
Development Department,
Union Carbide Chemicals Co.,
South Charleston, W. Va.

USE of water soluble films for packaging chemical specialties is a recent development. Packaging films based on water soluble poly (ethylene oxide) have been the subject of a coordinated concurrent research program in several of the divisional laboratories of Union Carbide Corp. Some of the problems encountered and results achieved are summarized in this contribution.

The molecular structure of poly (ethylene oxide) differs from the molecular structure of polyethylene only in the inclusion of oxygen atoms in the backbone of the polymer between each group of two carbon atoms.

$$-CH_2\text{-}CH_2\text{-}CH_2\text{-}CH_2\text{-}CH_2\text{-}CH_2-$$
Polyethylene
$$-CH_2\text{-}CH_2\text{-}O\text{-}CH_2\text{-}CH_2\text{-}O\text{-}CH_2\text{-}CH_2\text{-}O-$$
Poly (ethylene oxide)

It is therefore of some interest to compare the properties of these two polymeric systems, especially since film applications are an important outlet for polyethylene, and are being developed for poly (ethylene oxide).

Perhaps the most striking difference in physical properties between the two plastics lies in the water solubility of poly (ethylene oxide). The phenomenon of water solubility of non-electrolytes is only poorly understood. However, among the many factors known to exert an influence on the water solubility of a compound is solvation. The vast majority of organic compounds that dissolve in water do so with attendant formation of hydrogen bonds with the solvent. This is particularly true of water soluble polymeric non-electrolytes. Poly (ethylene oxide) is able to act as an electron donor in hydrogen bonding due to the presence of the unshared electron pairs of the oxygen atoms. (Fig. 1)

*Paper presented at 47th annual meeting, Chemical Specialties Manufacturers Association, Hollywood, Fla., Dec. 6, 1960.

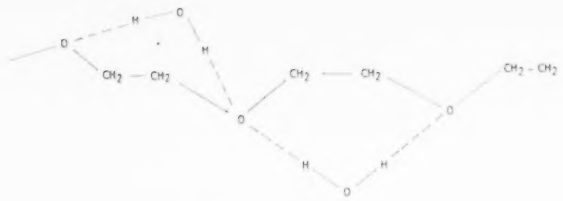


Figure 1

The tendency of poly (ethylene oxide) water soluble resin to enter into hydrogen bonding is demonstrated by the association products it forms with such donor molecules as poly (acrylic acid) and other polymer systems with carboxyl functionality. Although each of the hydrogen bonds has only the normal hydrogen bond strength of 5 to 8 k cal/mole, the net effect of many such bonds along the polymer chains is to effectively cross-link and insolubilize the polymer network. (Fig. 2)

One interesting aspect of the association product formed between poly (ethylene oxide) and a polymer containing free carboxylic acid groups is the fact that the association reaction occurs only at relatively low pH, below 3.5. This observation implies that the ionization of carboxylic groups must be very limited, a condition which prevails at low pH. Where a substantial percentage of the acidic hydrogens has ionized the association of the two polymers is effectively inhibited and precipitation does not occur.

Further evidence of the important role that solvation plays in the water solubility of poly (ethylene oxide) is found in the solubility characteristics of the resin at the boiling point of water. As the boiling point of the solution is closely approached, the dissolved poly (ethylene oxide) is precipitated. Inasmuch as the association ability of water approaches zero at the boiling point, the precipitation of the resin at the same temperature indicates that solvation is mandatory in dissolving the polymer.

Although it is not difficult to rationalize the water solubility of poly (ethylene oxide) compared to the water insolubility of polyethylene, a more complicated comparison is presented by the water solubility of poly (ethylene oxide) as opposed to the water insolubility of both polyoxymethylene and poly (propylene oxide).

$$-O\text{-}CH_2\text{-}CH_2\text{-}O\text{-}CH_2\text{-}CH_2-$$

Poly (ethylene oxide)

$$-O\text{-}CH_2\text{-}O\text{-}CH_2\text{-}O\text{-}CH_2\text{-}O-$$

Polyoxymethylene

$$-O\text{-}\underset{\displaystyle CH_3}{\underset{|}{CH}}\text{-}CH_2\text{-}O\text{-}\underset{\displaystyle CH_3}{\underset{|}{CH}}\text{-}CH_2\text{-}O-$$

Poly (propylene oxide)

Here, it can only be assumed that some of the more subtle factors which would be expected to play a role in water solubility of high polymers are operating to restrict the solubility of the resins in water. Among these are such properties as the dimensions of the crystalline lattice, i.e., water molecules must be able to penetrate the crystal to associate with the oxygen atoms of the polymer, as well as the bond angles, bond distances and other dimensional factors which must be taken into consideration when considering optimum association between non-electrolytes and water.

## Film Production

Production of a water soluble polymer is, however, only the first step in the development of a water soluble packaging film. Many water soluble polymers, both natural and synthetic, including carbohydrates, cellulose ethers, poly (acrylic acid), poly (acrylamide), poly (vinyl alcohol) and the natural gums are available. Relatively few of these materials have found application in packaging films or other shaped articles primarily due to properties of the polymers which do not lend themselves to plastic fabrication techniques or which result in fabricated articles with inadequate mechanical properties.

In considering the fabrication of film from a water soluble

Figure 2

resin one would ideally seek a resin which is sufficiently thermoplastic to permit film fabrication by normal plastic handling techniques such as extrusion and calendering. Thermoplasticity is also important in such post-fabrication operations as heat-sealing. Poly (ethylene oxide) which has been given the trade name "Polyox" by Union Carbide Chemicals Co. is, fortunately, sufficiently thermoplastic to permit film fabrication by both calendering and extrusion. The water soluble packaging film thus produced has been given the trade name "Hylox" by Visking Co., a division of Union Carbide Corp.

The usual problems inherent in the development of resin handling procedures for thermoplastic materials are complicated in the case of water soluble resins by factors peculiar to a water sensitive system. As an example, the resin moisture content can be considered. The same factor that results in water solubility, namely the solvation of oxygen atoms in the polymer backbone through hydrogen bonding, would be expected to result in the trapping of moisture from the air, and, therefore, an equilibrium moisture content of the resin. The equilibrium moisture content of poly (ethylene oxide) water soluble resin has been determined and is plotted in Fig. 3.

The relatively low softening point of poly (ethylene oxide) water soluble resin permits processing at temperatures below the boiling point of water. At these temperatures the moisture content of the resin is significant. Although the variation in the resin moisture content results in changes in the rheological properties of the resin melt these changes have not been of sufficient magnitude to necessitate the processing of the resin in a controlled atmosphere.

Plasticizers, to both improve processing characteristics and to improve the mechanical properties of fabricated articles, have been exploited with most thermoplastic

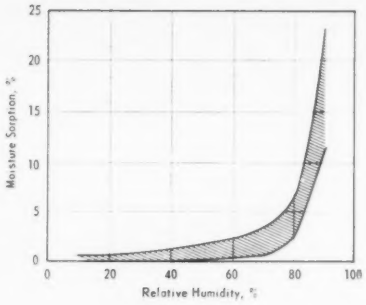



**Figure 3**

resins. Polyethylene, does not lend itself to plasticization. "Polyox" water soluble resin is a much more polar molecule due to the presence of the strongly electronegative oxygen atoms in the chain. The resulting increase in the intermolecular attraction between the polymer chain and other molecules permits the inclusion of selected plasticizers or softeners without excessive "sweat-out."

Plasticizers or softeners for a water soluble resin must be water soluble. However, water solubility is an undesirable property in plasticizers for conventional thermoplastic resins due to the water extractability of such plasticizers from the plastic. Consequently, little information is available on the plasticizer properties of water soluble materials. Development of suitable additives for thermoplastic water soluble resins therefore requires some background experimentation.

## Film Characteristics

Characteristics of a water soluble film that are pertinent to packaging applications vary widely depending upon the type of material to be packaged, the size of the package and the manner in which the package is to be filled, handled and used. However, some characteristics are important in almost all applications. Among these are:

*Heat sealing*: Being truly thermoplastic, "Hylox" water soluble film heat seals readily to give a seal with more endurance than the surrounding film. Under stress, the film will yield before the seal will part. The heat sealing temperature can be varied, depending upon the pressure applied in the sealing operation, but strong seals can be conveniently obtained in the range of 135°-160°F. Poly (ethylene oxide) based film also lends itself to R. F. sealing techniques.

*Permeability*: A "breathable" film, "Hylox" is quite permeable to organic vapors. Therefore, it does not lend itself to packaging applications in which the odor barrier properties of the film are important. On the other hand, the film is uniquely suited to packaging materials which have a pleasant aroma or which are perfumed for consumer appeal. Since the film is permeable to water vapor, it cannot be used to package deliquescent materials without additional protection to the package.

*Machine handling*: Machine handling characteristics of the water soluble film are good. The film tends to lie flat and is well suited to high speed packaging operations.

*Useful temperature range*: Softening point of the poly (ethylene oxide) water soluble resin is approximately 65°C. or 150°F. and at this temperature the tensile strength of the film drops off sharply. The low temperature properties of the resin are excellent and at −50°C. the film is tough and enduring.

*Humidity tolerance*: As previously noted, the moisture content of the resin varies with changes in relative humidity. However only at very high relative humidities, in excess of 90 per cent, is there any discernible reduction in the tensile strength of the film. At low humidity, the properties of the film are not adversely affected.

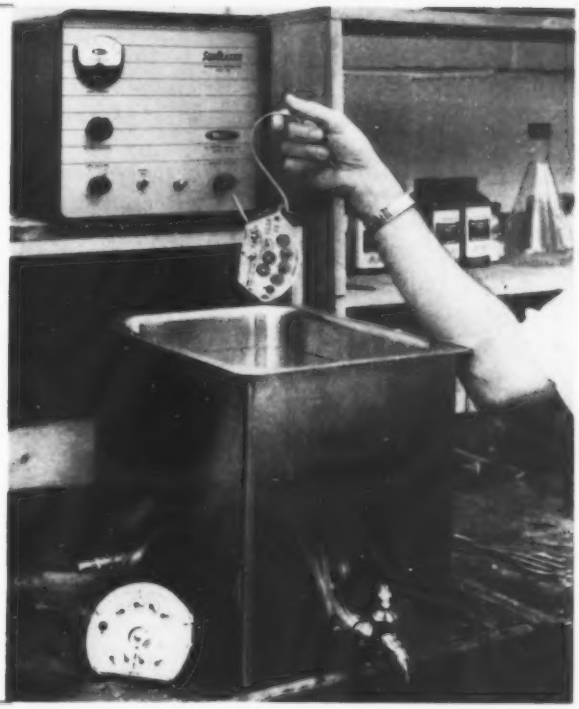
*Speed of dissolution*: In considering the speed of dissolution of a water soluble packaging film two aspects are important: Time required for release of package contents and time required for complete dissolution of the film. Although both of these factors are

(*Continued on Page* 117)

# Industrial Metal Cleaners

PART II

**By Donald Price**
Consulting Chemist
New York City



**Meter being immersed in tank of "Sonblaster" ultrasonic cleaner, made by Narda Ultrasonics Corp., Westbury, N. Y.**

PETROLEUM solvent cleaners combine high solvent power for oils and greases with safety on soft metals. However, these advantages are offset by the fire hazard involved in their use. Because of this hazard, petroleum spirit cleaning must normally be done cold, by immersion, spray-on or hand wiping methods. In large scale production cleaning, solvent cleaners are considered too hazardous and have fallen into disrepute. However, they are widely used to clean parts for inspection and in small installations.

Vapor degreasing, on the other hand, which employs chlorinated solvents, mainly trichlorethylene and perchlorethylene, has become increasingly popular in recent years. The basic principle of vapor degreasing consists in heating the solvent in an especiallly designed tank so as to fill the cleaning zone with dense vapors. These vapors are retained in the unit by means of a water jacket surrounding the upper part of the unit so as to control the maximum height of the vapor zone. The freeboard space taken up by the jacket prevents vapor loss by outside air currents. The object to be treated is immersed in the vapor zone and cleaned by condensation of the vapors on its surfaces. Oil and grease are thus carried off by the condensate.

Numerous improvements have been made upon the basic vapor degreaser. Liquid-vapor units are available in which parts are first immersed in the solvent and then drawn through the vapor. In multiple immersion units heavy soil is first removed in boiling solvent; parts are then immersed in warm solvent, and finally withdrawn through the vapor. Latest developments include an installation operating on a vapor-spray-vapor cycle adaptable to overhead conveyors. Another unit includes an ultrasonically agitated bath in the cycle and is designed for applications where the highest degree of cleanliness is desired.

One drawback of vapor degreasing is its limitation to the removal of oil, grease and waxes, leaving inert, insoluble soils such as abrasives in polishing compounds, pigments and carbonaceous material on the surfaces. For this reason vapor degreasing is often used in conjunction with other cleaning methods. The limitation may have been overcome by the incorporation of ultrasonically agitated baths into vapor degreasing units.

Formerly, vapor degreasing was limited to small parts, but large units have become available, eliminating this limitation. However, high initial cost confines their use to large establishments. Two very informative articles on the subject of vapor degreasing by Kearney and Kircher (17) have appeared recently.

### *Acidic Cleaners*

Hydrochloric acid and phosphoric acid containing inhibitors are used for rust and scale removal. Mineral acids, usually inhibited, also serve for metal pickling, and phosphoric acid containing wetting agents, solvents and other ingredients is used to clean and apply a light phosphate coating to metal. However, none of these processes comes within the

scope of the present article, since they are not primarily concerned with cleaning in the sense of soil removal. Space does not permit a discussion of acid pickling or phosphatizing, which cover broad fields. The reader is referred to Linford & Saubestre's bibliography (1) for the former and to the Rock Island Arsenal Technical Report (18) for the latter. Widest field of application for acidic cleaners is in maintenance cleaning operations.

### *Solvent-Emulsion Cleaners*

Solvent-emulsion cleaners usually consist of 80-90% of a petroleum derived hydrocarbon solvent (mostly kerosene), together with triethanolamine or potash soaps of fatty acids or tall oil as emulsifiers, plus a blending agent. The latter may be an alcohol or a glycol ether. Other surfactants may also be present. This mixture is supplied by the manufacturer to be diluted with water by the user.

Notwithstanding their simplicity, solvent-emulsion cleaners enjoy wide acceptance, because they present a relatively low fire hazard, are safe on light metals and suitable for use in power spray washers. Although solvent-emulsion cleaners find application in soak tanks, they are used to best advantage in spray washers where their cleaning action is greatly aided by the mechanical action of the sprays. Ordinarily, they are used at concentrations of 0.5% to 5% by volume and at temperatures not exceeding 160°F.

A variation on the solvent-emulsion cleaner is the so-called diphase cleaner, which is formulated intentionally so as to give an unstable emulsion. Both oil phase and water phase are present in these products. This type of cleaner is said to exert better cleaning action than a stable emulsion since the oil phase acts to dissolve grease and oil, while the aqueous phase dissolves water-soluble soils.

Initial cost of cleaning material is by no means the only factor in determining overall metal cleaning costs. When all other factors such as labor, cleaning action, solution life, heat required, are taken into consideration a high priced cleaning material may prove to be the cheapest in the long run. Cost plus performance is the determining factor.

Selection of the cleaning method is an important consideration in estimating costs. This choice has to be largely determined by the size and character of the parts to be cleaned and the degree of cleanliness required. Equipment for soak tank cleaning with alkaline cleaners is the least expensive to install and, as already indicated, alkaline cleaners are very versatile. However, where a large volume of bulky parts must be cleaned, the cost of multistage, conveyorized spray equipment may be fully justified. This applies also to vapor degreasing equipment for operations requiring a high degree of cleanliness. An excellent study of cleaning costs has recently been published by the ASM Metals Handbook Committee on Alkaline Cleaning (16). For the selection of metal cleaning methods, the reader is also referred to Campbell's article (8).

It should be amply clear that metal cleaning is an important industrial operation which becomes daily more complex as the rapid advances in metal technology create new cleaning problems. An index of its importance is the tremendous volume of technical literature which has grown up around it. In 1953, Harris published an extensive bibliography on metal cleaning containing abstracts of more than seven hundred patents and articles on the subject. Supplements to this compilation were added in 1954 and 1957 and a third is about to be published (19).

### Gluconic Acid and Salts

Sodium gluconate in caustic solutions is a good remover of rust from ferrous metal parts. Its rust dissolving power is based on the

*(Continued on Page 116)*

# New Surfactants Listed . . .

By John W. McCutcheon

Part IV

| Trade Name | Manufacturer | Class and Formula | Main Uses | Form | % Conc. | Type | Remarks |
|---|---|---|---|---|---|---|---|
| Peregal PM | Antara Chemicals, division, General Aniline & Film Corp. | Alkylphenoxypoly(ethyleneoxy) ethanol | Wetting | Liquid | 50% | Nonionic | Wool-dyeing assistant providing excellent penetration and levelness in the application of neutral-dyeing premetalized colors. |
| Peregal ST | Antara Chemicals, division, General Aniline & Film Corp. | Polyvinylpyrrolidone | Dispersant Suspending | Liquid | | Cationic | Stripping assistant for cotton and rayon yarns or fabrics dyed or printed with vat, sulfur, or direct colors; suitable for use in long liquors, package machines, or jigs. Used in textile printing to prevent the tinting of white grounds during soaping. Additive to fulling soaps to prevent the dulling of bright colors or the staining of whites in the fulling of plaids, checks, tweeds, or woolens and worsteds. Rag-stripping assistant in making paper, especially of a high grade. Detergent-assistant and soil-suspending agent for washing cellulosic-and animal-fiber yarns or fabrics. |
| Peregal TW | Antara Chemicals, division, General Aniline & Film Corp. | Alkylpoly(ethyleneoxy)glycol amine | Emulsifier Dispersant | Liquid | 20% | Cationic | Scouring agent for wool in acid or neutral solutions. Scouring agent and dyeing assistant for shearlings. Leveling agent for wool raw stock, yarn, and piece goods in dyeing with acid or chrome colors. Especially suitable for overcoming tippy dyeing effects. Dispersing agent for basic and acid dyestuffs used in the same bath for dyeing blends of wool and polyacrylonitrile fiber, e.g., wool/"Orlon." Antistatic agent for polyester fibers, such as "Dacron," and polyacrylonitrile fibers, such as "Orlon," "Acrilan," and "Dynel." Exhibits cationic properties in acid media and nonionic properties in alkaline systems. |
| Perma Kleer 95 | Refined Products Co. | Polyhydroxy acid | Sequestrant | Liquid | 33% | Anionic | General sequestering agent for alkaline solutions. |
| Perma Kleer 312 | Refined Products Co. | Polyhydroxy acid | Sequestrant | Liquid | 25% | Anionic | Iron and copper sequestrant stable in oxidizing media. |
| Perminal BX | Imperial Chemical Industries Ltd. | Sodium alkyl naphthalene sulphonate | Wetting | Powder | | Anionic | General textile wetting and dispersing agent. Leather and fur processing. Wetting agent for powder products. |
| Perminal COL | Imperial Chemical Industries Ltd. | Mixture of fatty alcohol ethylene oxide condensate and highly sulphated oil | Wetting | Liquid | | Anionic | Wetting agent for aqueous zinc chloride fluxes. |
| Perminal EML | | Alkyl naphthalene sulphonate with a colloid | Emulsifier | Liquid | | Anionic | Emulsifying vegetable and animal oils and fats for wool oiling etc. |
| Perminal KB | Imperial Chemical Industries Ltd. | Sulphonated sperm oil with pine oil in water emulsion | Wetting | Liquid | | Anionic | For wetting, dispersing, degreasing and emulsifying. Kier boiling assistant and anti-foam agent in calico printing. |
| Perminal PP | Imperial Chemical Industries Ltd. | Sodium alkyl naphthalene sulphonate | Wetting | Powder | | Anionic | Pigment padding assistant. |
| Perminal PW | | Glue-urea-"Perminal WA" | Emulsifier | Powder | | Anionic | Emulsifying oils and waxes. |
| Perminal WA | | Sodium alkyl naphthalene sulphonate with common salt | Wetting | Powder | | Anionic | General textile wetting and dispersing agent. Leather and fur processing. |
| Petro AGS | Petrochemicals Co. | Alkyl naphthalene sodium sulfonate | Hydrotrope | Powder Liquid | 98% 50% | Anionic | Powerful hydrotrope, water soluble. Anti-caking agent. Stable in presence of cyanurate and hydantoin bleaches. Soluble in acids, alkalies, salts, builders and liquid fertilizers. |

| Trade Name | Manufacturer | Class and Formula | Main Uses | Form | % Conc. | Type | Remarks |
|---|---|---|---|---|---|---|---|
| Petro ADS | Petrochemicals Co. | Alkyl naphthalene sodium sulfonate | Detergent Wetting | Liquid | 50% | Anionic | Similar to "Petro AGS" but containing anti-foam; constituent of machine dishwashing compound. |
| Petrobase 2312 | Petrochemicals Co. | Petroleum sulfonate plus rosin soap | Emulsifier | Liquid | | Anionic | Emulsifying and rust preventive properties. |
| Pexsyn L-260 | Peck's Products Co. | A built alkyl aryl sulfonate | Detergent | Liquid | 16% | Anionic | An industrial cleaner, used on floors, hand dish-washing, car washing, etc. |
| Pexsyn 593 | Peck's Products Co. | Alkyl aryl sulfonate plus foam booster | Detergent Wetting | Liquid | 65% | Anionic | A concentrate used to compound liquid deter-gents. |
| Pilot AEL-60 | Pilot Chemical Co. of California | Ammonium nonyl phenol tetra ethoxy sulfate | Detergent Wetting Emulsifier | Liquid | 60% | Anionic | Foamer; detergent base component in carwash, hand dishwashing and rug shampoos. |
| Pilot SEL-60 | Pilot Chemical Co. of California | Sodium nonyl phenol tetraethoxy sulfate | Detergent Wetting Emulsifier | Liquid | 60% | Anionic | Foamer; detergent base component in carwash, hand dishwashing and rug shampoos. |
| Pilot TEL-60 | Pilot Chemical Co. of California | Triethanolamine nonyl phenol tetraethoxy sulfate | Detergent Wetting Emulsifier | Liquid | 60% | Anionic | Foamer; emulsifier for cosmetic preparations. |
| Pilot KTS-40 | Pilot Chemical Co. of California | Potassium salt of toluene sulfonic acid | Solubilizer | Liquid | 40% | Anionic | Solubilizer, coupler for sulfonate and phosphate formulas. |
| Pine Cleaner ES | Maher Color & Chemical Co. | Blend of solvents and detergents | Detergent | Liquid | 35% | Anionic | Stabilized blend of anionic detergents and selected terpene solvents. |
| Polylan | American Cholesterol Products, Inc. | Ester of lanolin alcohols and linoleic acid | Dispersant Lubricant | Liquid | 100% | Nonionic | Lanolin derived unsaturated co-solvent, pig-ment solubilizer, hydrophobic dispersant, for cosmetics and pharmaceuticals. |
| Polymoist | Knapp Products, Inc. | Cholesterol extract | Emulsifier | Liquid | 100% | Nonionic | Emulsifier and stabilizer, acts as a moisturizing agent in cosmetic preparations. |
| Poly Tergent LF-400 | Olin Mathieson Chemical Corp. | Polyethenoxy ether | Detergent Wetting | Liquid | 100% | Nonionic | Low foaming detergent and wetting agent for dishwashing formulations and metal cleanign. |
| Premium Albusoy | Chemurgy Division Central Soya Co. | Enzyme hydrolyzed soy proteinate | Foamer | Powder | 100% | Ampho-teric | Edible, suitable as extender for egg protein which does not coagulate with heat. |
| Premium Duz (retail) | Procter & Gamble Co. | Built alkyl aryl sodium sulfonate | Detergent | Bead | | Anionic | Built, all-purpose, household detergent. |
| Profoam 1012 | Process Chemicals Co. | Specially compounded | Detergent | Liquid | 93% | Anionic | Bubble bath when used at 33% concentration. |
| Profoam 1100 | | Alkanolamide lauryl sulfate | Detergent | Paste | 100% | Anionic | Has good wetting action. |
| Profoam 1203 1204 | Process Chemicals Co. | Specially compounded | Detergent | Liquid | 100% | Anionic | When diluted 1 pint per gallon makes viscous, clear shampoo. "1204" makes pearly clear shampoo. |
| Promeen 255 | Process Chemicals Co. | Rosin amine ethoxylate | Corrosion Inhibitor | Liquid | 100% | Cationic | Oil-Soluble additive to radiator emulsion com-pounds and refinery corrosion inhibitors. |
| Promeen 261 | Process Chemicals Co. | Rosin amine ethoxylate | Emulsifier | Liquid | 100% | Cationic | Water-soluble suspending agent and emulsifier. |
| Promeen 2113 | | Amido amine | Emulsifier | Paste | 100% | Cationic | Soluble cationic emulsifier. |
| Promeen 2151 | Process Chemicals Co. | Oleyl imidazoline quaternary | Bactericide | Liquid | 70% | Cationic | Highly effective against sulfate reducing bac-teria. |
| Promeen 2000 | | Alkyl dimethyl hydroxyethyl ammonium chloride | Bactericide Emulsifier | Liquid | 50% | Cationic | Phenol coefficient 400 against Staph. aureus. Emulsifier for chlorinated solvents in con-junction with "Pronon 210." |
| Promeen 2101 | Process Chemicals Co. | Oleyl imidazoline | Emulsifier | Paste | 100% | Cationic | Prevents sludge formation. |

| Trade Name | Manufacturer | Class and Formula | Main Uses | Form | % Conc. | Type | Remarks |
|---|---|---|---|---|---|---|---|
| Promeen A-3511 | Process Chemicals Co. | Coconut diethanolamide | Foam Stabilizer Thickener | Liquid | 100% | Nonionic | Cosmetic grade ingredient for liquid shampoos. |
| Promeen SA-3610 | Process Chemicals Co. | Monoethanolamine coconut amide | Foam Stabilizer Thickener | Flake | 100% | Nonionic | Cosmetic grade ingredient for liquid and paste shampoos. |
| Promine | Chemurgy Division Central Soya Co. | Unhydrolyzed soy protein-edible | Emulsifier Stabilizer | Powder | 100% | Ampho-teric | Edible emulsifier for fats and matrix for food ingredients in food formulations. |
| Promine-D | | Unhydrolyzed soy proteinate | Stabilizer Emulsifier | Powder | 100% | Ampho-teric | Emulsifier for fats and matrix for food ingredients in food formulations. |
| Promul 5030 | Process Chemicals Co. | Ethylene glycol monostearate | Opacifier | Flake | 100% | Nonionic | Opacifier for shampoos. |
| Promul 5254 | | Polyethylene glycol 400 monolaurate | Emulsifier | Liquid | 100% | Nonionic | A high grade emollient and coupling agent. |
| Promul 5255 | Process Chemicals Co. | Polyethylene glycol 400 dilaurate | Emulsifier | Liquid | 100% | Nonionic | Oil-soluble emulsifier and emollient. |
| Promul 5280 | | Polyethylene glycol 400 monostearate | Emulsifier | Paste | 100% | Nonionic | Emollient. |
| Promul 5285 | Process Chemicals Co. | Polyethylene glycol 400 distearate | Emulsifier | Flake | 100% | Nonionic | Emollient. |
| Promul 5680 | | Glycerol monopalmitate | Emulsifier | Flake | 100% | Nonionic | Emulsifiers for the food, cosmetic and drug trade. |
| Promul 5720 | Process Chemicals Co. | Glycerol monostearate | Emulsifier | Flake or Powder | 100% | Nonionic | |
| Promul 5730 | Process Chemicals Co. | Glycerol monostearate S. E. | Emulsifier | Flake or Powder | 100% | Nonionic | |
| Promul 5750 | Process Chemicals Co. | Glycerol monostearate, high mono | Emulsifier | Flake or Powder | 100% | Nonionic | |
| Promul 5760 | Process Chemicals Co. | Glycerol monooleate | Emulsifier | Liquid | 100% | Nonionic | |
| Promul 5930 | | Propylene glycol monostearate, S. E. | Emulsifier | Flake | 100% | Nonionic | Useful in hand lotions. |
| Pronon 201 | Process Chemicals Co. | Nonylphenol polyoxyethylene ethanol | Emulsifier | Liquid | 100% | Nonionic | Oil-soluble coupling agent and defoamer. |
| Pronon 216 | Process Chemicals Co. | Nonylphenol polyoxyethylene ethanol | Emulsifier Detergent | Paste | 100% | Nonionic | Water-soluble coupling agent and defoamer. |
| Pronon 220 | Process Chemicals Co. | Nonylphenol polyoxyethylene ethanol | Emulsifier Detergent | Solid | 100% | Nonionic | Water-soluble emulsifier and detergent. |
| Pronon 276 | Process Chemicals Co. | Dodecylphenol polyoxyethylene ethanol | Emulsifier | Liquid | 100% | Nonionic | Oil-soluble component of dry cleaning detergents and degreasers. |
| Pronon 280 | Process Chemicals Co. | Dodecylphenol polyoxyethylene ethanol | Detergent | Liquid | 93% | Nonionic | Water-soluble detergent. |
| Pronon 505 | Process Chemicals Co. | Alkyl polyoxyethylene ethanol | Wetting | Liquid | 100% | Nonionic | Wetting and detergency improver when added to detergent formulations. |
| Pronon 531 | Process Chemicals Co. | Alkyl polyoxyethylene ethanol | Detergent | Paste | 100% | Nonionic | High-foaming detergent. |
| Pronon 275 | | Dodecylphenol polyoxyethylene ethanol | Emulsifier | Liquid | 100% | Nonionic | Water-in-oil emulsifier used in crude oil products to break water block. |
| Propaste 6700 | Process Chemicals Co. | Sodium lauryl sulfate | Detergent | Paste | 30% | Anionic | Low viscosity lauryl sulfate low in salts and free fatty alcohol. |
| Propaste AA | | Modified ammonium lauryl sulfate | Detergent | Liquid | 30% | Anionic | High foamer, pH 6.5, with built in detergency booster and foamer stabilizer. |
| Propaste X | | Sodium fatty alcohol sulfate | Wetting | Liquid | 30% | Anionic | Good wetting and coupling action. Made from special fatty alcohol cut. |
| Proprime #5 | Process Chemicals Co. | Fatty amine condensate | Wetting | Liquid | | Cationic | Oil-soluble additive; passes various State Hwy. codes. |
| Proprime #11 | | Quaternary ammonium compound | Emulsifier | Liquid | | Cationic | Water-soluble, forms asphalt emulsions with cationic properties. |

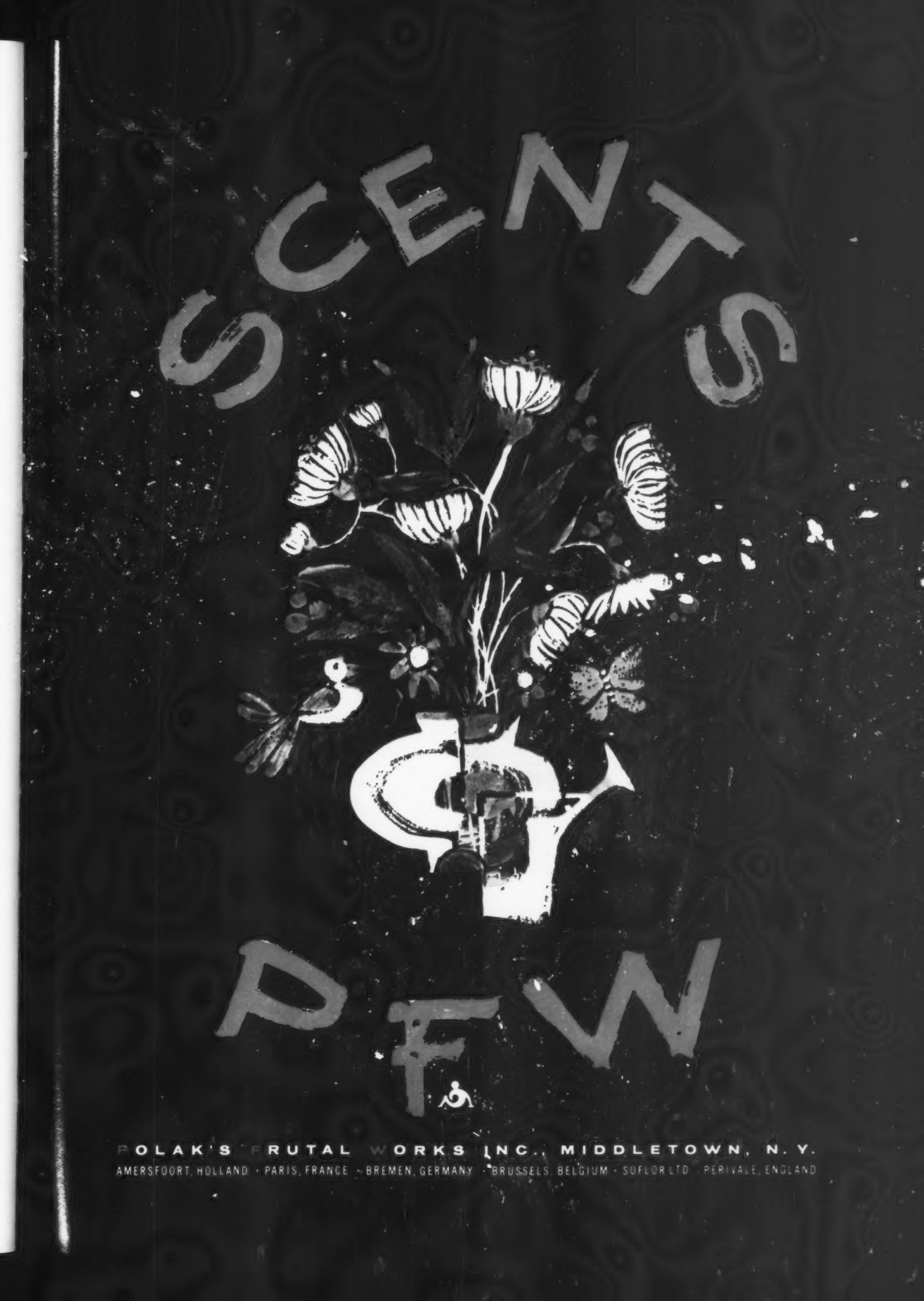
| Trade Name | Manufacturer | Class and Formula | Main Uses | Form | % Conc. | Type | Remarks |
|---|---|---|---|---|---|---|---|
| Propylene Glycol Monococate C | Colgate-Palmolive Co. | As named | Emulsifier Stabilizer Solubilizer | Liquid | 85% | Nonionic | A blending agent and base in various liquid cosmetic and industrial emulsions; insecticide emulsifier for sprays; plasticizer and stabilizer in co-polymer vinyls; defoaming agent for PVAc emulsions-adhesive and protective coatings, % active based on monoglyceride content. |
| Propylene Glycol Monostearate | Colgate-Palmolive Co. | As named | Emulsifier Dispersant | Solid | 83% | Nonionic | Edible. Same uses as described for Glycerol Monostearate; emulsifier melting near body temperature (97°F) % active based on monoglyceride content. |
| Propylene Glycol Monolaurate P | Colgate-Palmolive Co. | As named | Emulsifier Stabilizer Solubilizer | Liquid | 86% | Nonionic | Same general uses as the Monococate C ester; an ester almost free of unsaturated acids; % active based on monoglyceride content. |
| Prosept 2301 | Process Chemicals Co. | Stearyl quaternary ammonium compound | Softener | Paste | 30-35% | Cationic | Use: 10% plus 1% "Promul 5285" and .5% NaCl, for cream rinse. |
| Prosol A-1825 | Process Chemicals Co. | Diethanolamine coco amide | Thickener Foamer | Liquid | 100% | Nonionic | 'Prosol A-1825' also available as low cost industrial grade amide. |
| Prosol SA-3330 | Process Chemicals Co. | Coco superamide from diethanolamine | Foam Stabilizer Thickener | Liquid | 100% | Nonionic | For liquid detergents, shampoos; 83% minimum amide content. |
| Prosol SA-3406 | Process Chemicals Co. | Alkylamide polyoxyethylene ethanol | Detergent Thickener | Paste | 100% | Nonionic | Low cost detergency booster can substitute for lauric isopropanol amide. |
| Prosol E-4240 | Process Chemicals Co. | Polyethylene glycol oleate | Emulsifier | Liquid | 100% | Nonionic | Cutting oil and soluble oil emulsifier; oil soluble. |
| Prosol E-4299 | | Polyethylene glycol 400 dioleate | Emulsifier | Liquid | 100% | Nonionic | Highly oil-soluble water-in-oil emulsifier. |
| Prosol E-4340 | Process Chemicals Co. | Castor oil ethoxylate | Emulsifier | Paste | 100% | Nonionic | Useful component of toxicant emulsifiers; also as paint leveling agent. |
| Prosol E-4343 | Process Chemicals Co. | Tall oil fatty acid polyoxyethylene ethanol | Emulsifier Detergent | Paste | 100% | Nonionic | Low foaming nonionic detergent and emulsifier. |
| Prosol S-6402 | Process Chemicals Co. | Alkyl aryl sulfonate nonionic blend | Detergent | Liquid | 95% | Anionic | 33% "Prosol S-6402" plus 10% "Propaste 6720" and water makes a good liquid dishwash compound. |
| Protox 7210, 7215 7220, 7226 7230, 7235 | Process Chemicals Co. | Special nonionic-anionic blends | Emulsifier | Liquid | | Anionic | Highly efficient, stable emulsifiers for malathion, parathion, toxaphene, DDT, dieldrin, etc. |
| Protox 7300 7400 | Process Chemicals Co. | Special nonionic-anionic blends | Emulsifier | Liquid | | Anionic | May be blended for use with any of the toxicants or blends of toxicants. |
| Prowet 6003 | Process Chemicals Co. | Alkyl aryl sulfonate alkanolamide | Detergent Foamer | Liquid | 85% | Anionic | One part to 7 parts of soft water makes good bubble fluid for use in toys, etc. |
| Prowet 6103 | Process Chemicals Co. | Alkyl sulfate alkanolamide | Wetting Detergent | Liquid | 100% | Anionic | Wetting agent; useful as an additive to liquid detergents. |
| Puraphen | Peck's Products Co. | Sulfonated alkyl diphenyl oxide and aryl-chloro-phenol | Germicide Detergent | Liquid | | Anionic | A built detergent germicidal cleaner for use in hospitals, food areas, etc., where maximum cleanliness must be maintained. |
| Quatrene AST | Textilana Corp. | Fatty glyoxalidinium chloride | Germicide Fungistat | Liquid | 100% | Cationic | Bacteria and corrosion control in oil systems, water systems and detergents. |
| Quatrene A-56 | Textilana Corp. | Fatty glyoxalidinium chloride | Germicide Fungistat | Liquid | 80% | Cationic | Wetting agents in acid and salt solutions; emulsion breaking. |
| Quatrene O-56 | Textilana Corp. | Fatty glyoxalidinium chloride | Germicide Fungistat | Liquid | 80% | Cationic | |

| Trade Name | Manufacturer | Class and Formula | Main Uses | Form | % Conc. | Type | Remarks |
|---|---|---|---|---|---|---|---|
| Quatrene C-56 | Textilana Corp. | Fatty glyoxalidinium chloride | Germicide Fungistat | Liquid | 80% | Cationic | Bacteria and corrosion control in oil systems, water systems and detergents. |
| Quatrene CA | Textilana Corp. | Fatty amido alkyl quaternary chloride | Germicide Fungistat | Liquid | 90% | Cationic | Wetting agents in acid and salt solutions; Emulsion breaking. |
| Quatrene CB | Textilana Corp. | Coco fatty dialkyl benzyl ammonium chloride | Germicide Fungistat | Liquid | 50% & 80% | Cationic | |
| Quatrene SFB | Textilana Corp. | Soya fatty dialkyl benzyl ammonium chloride | Germicide Fungistat | Liquid | 80% | Cationic | |
| Quatrene HNO | Textilana Corp. | Fatty quaternary compound | Softener | Paste | 80% | Cationic | |
| Quick-O-Matic | Colgate-Palmolive Co. | A blend of alkalies and polyoxyethylated nonyl phenol | Detergent | Powder | | Nonionic | Automatic dishwashing compound for industrial use. |
| Ricilan A | American Cholesterol Products, Inc. | Unsaturated hydroxy ester of lanolin alcohols | Dispersant Lubricant | Liquid | 100% | Nonionic | Lanolin derived unsaturated co-solvents, pigment solubilizers, hydrophobic dispersants; uses: cosmetics, lipsticks, make-up. |
| Ricilan B | | Unsaturated hydroxy ester of lanolin alcohols | Dispersant Lubricant | Liquid | 100% | Nonionic | |
| Ricilan C | | Acetylated Ricilan B | Lubricant | Liquid | 100% | Nonionic | |
| Rinsfors DC | Sandoz, Inc. | Emulsifiable solvents | Detergent | Liquid | | Anionic | Removal of oil stains and graphite on textiles. |
| Rodalon | Fine Organics, Inc. | Dimethyl benzyl lauryl ammonium chloride | Germicide | Liquid | 50% | Cationic | Sanitizer; suggested concentration, 200 PPM; also supplied in a 97-100% active solid; phenol coefficient against S.A. at 20°C., 300; at 37°C. -407. |
| Sandopan DTC-100 | Sandoz, Inc. | Ethylene oxide condensate | Detergent | Liquid | | Anionic | Detergent for textile, paper and leather trades. |
| Sapamine PA | Ciba Co. | Carboxylic acid amide derivative | Softener | Paste | 33% | Cationic | Softener for synthetic fibers, especially polyacrylic and monacrylic. |
| Sapamine NJ | Ciba Co. | Nonionic condensation product | Softener | Paste | 33% | Nonionic | Softener for all fibers in any state; compatible with many other types of chemicals and finishes. |
| Schercilon | Scher Brothers | Ethoxylated ester | Penetrant | Liquid | | Nonionic | Solubilizing and leveling agent for vat and naphthol colors. |
| Scherconol | | Fatty alcohol sulfate | Detergent | Liquid | | Anionic | Textile processing. |
| Schercopol | | Polyglycol amine ester | Dispersant | Liquid | 30% | Cationic | Dyebath stabilizer and dispersant for basic dyes. |
| Schercopon | Scher Brothers | Oleoyl-taurate soap | Wetting Detergent | Gel | | Anionic | Textile processing. |
| Schercopon #769 | Scher Brothers | Modified alkyl aryl sulfonate | Detergent | Liquid | | Anionic | General scouring with controlled sudsing. |
| Schercoscour MP | | Low titre built soap | Detergent | Powder | | Anionic | A powdered scour for synthetic fibers which rinses out readily at low temperatures. |
| SD 75 | Fine Organics, Inc. | Alkenyl dimethyl ethyl ammonium bromide | Algaecide | Liquid | 75% | Cationic | For algae control; the alkenyl group is essentially 9-octadecenyl. |
| Sellogen O-134-T | Jacques Wolf & Co. | Glycol fatty ester plus solvents | Detergent | Liquid | 100% | Nonionic | Leather degreasing agent. |
| Sequestrene 45K | Geigy Chemical Corp. | Tetra potassium ethylenediamine tetraacetic acid | Chelating agent | Liquid | 45.2% | Anionic | Better aqueous solubility than the corresponding sodium salt. |
| Sequestrol OS | Maher Color & Chemical Co. | Alkanolamine salt of EDTA | Sequestrant | Liquid | 100% | Anionic | Oil soluble sequestering agent. |
| Shampoo Concentrate | Colgate-Palmolive Co. | A cocomonoglyceride sulfate | Detergent | Liquid | 40% | Anionic | Uses: A liquid source of monoglyceride sulfate and/or for compounding shampoo, bubble bath, dishwashing compound, etc. |

| Trade Name | Manufacturer | Class and Formula | Main Uses | Form | % Conc. | Type | Remarks |
|---|---|---|---|---|---|---|---|
| Sherosope 76 | Bryton Chemical Co. | Synthetic sodium petroleum sulfonate | Emulsifier | Liquid | 38% | Anionic | A water soluble sulfonate, used in industrial cleaning and concrete cleaning compounds. |
| Sherosope F-430<br>F-445<br>F<br>T | Bryton Chemical Co. | Natural sodium petroleum sulfonate | Emulsifier<br>Dispersant<br>Wetting | Liquid | 62% | Anionic | A group of oil-soluble natural sodium petroleum sulfonates with differing molecular weights; used in cutting oils, textile oils, leather oils, rust preventive formulations, etc. |
| Siotol AF | Imperial Chemical Industries, Ltd. | Fatty acid condensed with ethylene oxide | Anti-foaming | Liquid | 100% | Nonionic | Anti-foaming agent of particular value for glues. |
| Sipex TDS | American Alcolac Corp. | Sodium tridecyl sulfate | Emulsifier<br>Wetting | Liquid | 25% | Anionic | As an emulsifier in emulsion polymerization, also in pigment dispersing and as wetting agent in pesticides and textiles. |
| Sipex UB | | Sodium salt of lauryl sulfate | Emulsifier | Liquid | 30% | Anionic | Low inorganic salts, low unsulfated fatty alcohol as required for emulsion polymerization. |
| Sipon SD | American Alcolac Corp. | Sodium salt of lauryl sulfate | Detergent<br>Emulsifier | Powder | 90% | Anionic | Useful in bubble bath and shampoo where water content must be low. |
| Siponic CD | American Alcolac Corp. | Aliphatic ethoxylate | Emulsifier<br>Wetting | Liquid | 75% | Nonionic | Gives fast wetting with relatively low foam; used in adhesives, textiles, formulated detergents, etc. |
| Siponic L1-L25 | American Alcolac Corp. | Ethoxylated fatty alcohols | Emulsifier | Liquid<br>Paste | 98% | Nonionic | Emulsifiers, emollients and solubilizers for cosmetic creams and lotions; higher numbers are more hydrophilic, lower numbers more hydrophobic. |
| Siponic Y100-Y500 | American Alcolac Corp. | Ethoxylated fatty alcohols | Emulsifier | Liquid<br>Paste | 96-100% | Nonionic | Emulsifiers for wax, creams and latices, also as stabilizers for latices; higher numbers more hydrophilic; lower numbers more hydrophobic. |
| Siposan HCF | American Alcolac Corp. | Stearyl dimethyl benzyl ammonium chloride | Softener<br>Germicide | Paste | 21-23% | Cationic | Free flowing, non-separating; used in creme hair rinses, in textiles as a softener, and as a germicide. |
| Siposan 6XDF | American Alcolac Corp. | Lauryl ether quaternary | Gelling agent | Liquid | 40% | Cationic | Gelling agent for latex; no pre-floc. |
| Skleen C.D. | Vestal, Inc. | A built syndet | Detergent | Liquid | 20.5% | Anionic | Heavy-duty, all-purpose detergent. |
| So-Kleen | B. T. Babbitt, Inc. | Built mixture of nonionics | Detergent | Liquid | 25% | Nonionic | A general all purpose household detergent. |
| Solar LC | Swift & Co. | A built product | Detergent | Powder | | Nonionic | Controlled sudsing, all-purpose, built detergent. |
| Solar H. D. High Suds | | A built product | Detergent | Granules | | Anionic | Solar Heavy Duty, but not controlled suds. |
| Solar Rug Wash & Metal Cleaner | Swift & Co. | A compounded product | Detergent | Granules | | Anionic | Very heavy duty metal cleaning; contains corrosion inhibitor. |
| Solar Driveway Cleaner | | A built product | Detergent | Granules | | Anionic | Good cement cleaner, does not harm black-top. |
| Solar TE Liquid | Swift & Co. | Modified amide | Emulsifier | Liquid | | Nonionic | Fulling and scouring of woolen; unusually compatible with alkalies. |
| Solar Emulsifier F 221 | Swift & Co. | Modified amide | Emulsifier | Liquid | 100% | Nonionic | Heat stable; water phase up to 90% and either acidic, basic or saline; a water/oil emulsifier. |
| Solar Emulsifier F 342 | Swift & Co. | Modified amide | Emulsifier | Liquid | 100% | Nonionic | Good stability, easy to form oil/water emulsions |
| Sole-Fonate 98K | Sole Chemical Corp. | Dodecyl benzene sulfonic acid | Detergent Intermediate | Paste | 93-95% | Anionic | Sulfonated with $SO_3$ to provide low salt products. |
| 101 | Sole Chemical Corp. | Oil soluble amine salt of dodecyl benzene sulfonate | Emulsifier | Paste | 95% | Anionic | Oil soluble emulsifier. |

| Trade Name | Manufacturer | Class and Formula | Main Uses | Form | % Conc. | Type | Remarks |
|---|---|---|---|---|---|---|---|
| Sole-Fonate 102 | Sole Chemical Corp. | Calcium salt of dodecyl benzene sulfonate | Detergent | Paste | 70% | Anionic | Oil soluble emulsifier. |
| 103 | | T.E.A. salt of dodecyl benzene sulfonate | Detergent | Liquid | 53% | Anionic | Detergent base for liquid compounds. |
| 104 | Sole Chemical Corp. | Na salt of dodecylbenzene sulfonate | Detergent | Liquid | 44% | Anionic | Contains 30-32% ethanol; shampoo and general detergent base. |
| Sole-Mulse B | Sole Chemical Corp. | Modified ethoxylates | Emulsifier | Liquid | 100% | Anionic | Emulsifier for emulsion degreasers, industrial cleaners. |
| ODB-2 | Sole Chemical Corp. | Modified ethoxylates | Emulsifier | Liquid | 100% | Anionic | Emulsifier for ortho-dichlorobenzene, etc. |
| SK-Series | | Modified ethoxylates | Solubilizer Emulsifier | Liquid | 100% | Nonionic | Solubilizers for O/W skin cleansers, aerosol foamers, specialty formulations. |
| Sole-Onic | Sole Chemical Corp. | | | | | | |
| CTAB | | Cetyl trimethyl ammonium bromide | Germicide Deodorant | Powder | 100% | Cationic | For cosmetic and pharmaceutical formulation. |
| CH-55 | Sole Chemical Corp. | Glucoheptonate system | Chelating agent | Powder | 100% | Nonionic | Used for Fe, Cu, Al, Ca, Mg in high pH systems. Used for dry formulations. |
| MEAS | Sole Chemical Corp. | Stearyl-monoisopropanolamide | Opacifier | Solid | 100% | Nonionic | Used for liquid or paste shampoos. |
| MIO | | Oleyl-monoisopropanolamide | Antistatic | Paste | 100% | Nonionic | Substantive "antistatic" conditioner additive for shampoos, hair dressings and skin products. |
| O | Sole Chemical Corp. | Mono-diolein | Emulsifier Anti-corrosion | Liquid | 100% | Nonionic | Edible grade fluid emulsifier. |
| SB | | Butyl stearate | Plasticizer Wetting | Liquid | 100% | Nonionic | Oil soluble plasticizer-solvent for lipsticks, nail polishes and removers, cosmetic waxes. |
| ST-1 | Sole Chemical Corp. | Sulfonated tallow | Softener | Paste | 75% | Anionic | Cotton softener. |
| TMG(P) | | Glyceryl stearate | Emulsifier | Powder | 40-45% | Nonionic | Non self-emulsifying emulsifiers for ice cream, baking, chewing gum, cosmetic emulsions and shampoos; meets latest FDA requirements. |
| TMG-6 | | Glyceryl stearate | Emulsifier | Powder | 60-65% | Nonionic | |
| Sol-Esco | Cowles Chemical Co. | Compounded product | Detergent | Powder | | Nonionic | Heavy duty, one-shot detergent; especially for industrial garments. |
| Sole-Terge 51 | Sole Chemical Corp. | Coco alkanolamide | Foamer Detergent | Liquid | 70% | Nonionic | Viscosity modifier-foam booster for industrial cleaners. |
| 57 | | Lauric alkanolamide | Foamer Detergent | Liquid | 70% | Nonionic | Cosmetic grade shampoo additive-viscosity modifier; foam booster-stabilizer. |
| 58 | | Lauric alkanolamide | Foamer Detergent | Liquid | 70% | Nonionic | Light colored—detergent formulation additive. |
| Sole-Terge 59K | Sole Chemical Corp. | Mixed fatty alkanol amide | Emulsifier | Liquid | 90% | Nonionic | Emulsifier for paint colorant systems, dry cleaning industrial oils. |
| 310 | | Sodium sulfated tridecanol ethoxylate | Detergent Foamer | Liquid | 50% | Anionic | Low salt type—contains 12-14% added ethanol. |
| 311 | Sole Chemical Corp. | Sodium sulfated tridecanol ethoxylate | Detergent Foamer | Liquid | 30% | Anionic | Low salt type—contains no added ethanol. |
| 315 | | TEA sulfated tridecanol ethoxylate | Detergent Foamer | Liquid | 92% | Anionic | Anhydrous liquid detergent base material. |
| 325 | Sole Chemical Corp. | Lauric alkanolamide | Detergent Thickener | Liquid | 90% | Nonionic | High potency thickener; good solubilizing properties. |
| Sole-Terge | Sole Chemical Corp. | Ethoxylated phenols | Emulsifier | Liquid | 100% | Nonionic | Series varies in molecular weight to produce more or less oil soluble emulsifiers, detergents and various other household and industrial formulated specialties; "NE-series" liquid and paste. |
| EX-series | | | | | | | |
| NE-series | | Ethoxylated nonyl phenol | Detergent | Liquid & Paste | 100% | Nonionic | |
| OE-series | | Ethoxylated octyl phenol | | | 100% | Nonionic | |

| Trade Name | Manufacturer | Class and Formula | Main Uses | Form | % Conc. | Type | Remarks |
|---|---|---|---|---|---|---|---|
| OW-series | Sole Chemical Corp. | Modified polyethoxylate | De-emulsifier | Liquid Paste | 100% | Anionic | This series ranges from OW-2 through OW-9 inclusive; used as oil-well deemulsifier. |
| TOE | | Tall oil ethoxylate | Emulsifier Detergent | Liquid | 100% | Nonionic | Controlled suds detergent-emulsifier. |
| TS-2-S | Sole Chemical Corp. | Sodium-2 ethyl hexyl sulfate | Wetting Penetrant | Liquid | 35% | Anionic | Industrial wetter/penetrant for textiles. |
| NSN | | Sodium-lauryl sulfate (USP) | Detergent Foamer | Needle | 90% | Anionic | Non dusting—low salts-foamer-wetter-shampoo. Detergent base. |
| Solgent 200 | Woonsocket Color & Chemical Co. | Sulfonated dodecyltoluene solvent complex | Detergent | Liquid | | Anionic | For use in liquid detergent compounds. |
| Soliol Base L-60 CX-60 | Chas. T. Fass, Inc. | Petroleum sodium sulfonate | Detergent Wetting Emulsifier | Liquid | 63% | Anionic | Rust proofing agent and detergent for petroleum oils. |
| Solulan 16 | American Cholesterol Products,Inc. | Ethoxylated lanolin alcohols | Emulsifier Dispersant Lubricant | Wax | 100% | Nonionic | Lanolin derived o/w emulsifiers and surfactants, solubilizers for cosmetics and pharmaceuticals. Water soluble emollients and conditioners for cosmetic and pharmaceutical applications. |
| Solulan 25 | | Ethoxylated lanolin alcohols | Dispersant Lubricant | Wax | 100% | Nonionic | |
| Solulan 75 | American Cholesterol Products,Inc. | Ethoxylated lanolin | Dispersant Emulsifier | Wax | 100% | Nonionic | |
| Solvadine BL Conc. | Ciba Co. | Sodium salt of an alkylated aryl-sulfonic acid | Wetting | Powder | 100% | Anionic | Wetting agent; also for hypochlorite baths and carbonizing liquors. Leveller and penetrant in acid wool dyeing. |
| Sorapon Acid | Chemical Developments of Canada Ltd. | Dodecyl benzene sulfonic acid | Detergent | Liquid | 85% | Anionic | Raw material for the manufacture of detergents and emulsifiers. |
| Sorapon AM | | Amine salt of dodecyl benzene sulfonic acid | Detergent | Liquid | 96% | Anionic | Emulsifier for solvent cleaners; raw material for agricultural emulsifiers. |
| Sorapon L | | Balanced combination of detergents with builders, CMC and optical brighteners | Detergent | Granules | | Anionic | General heavy duty detergent, especially laundry detergent. |
| Sorapon L-40D | Chemical Developments of Canada Ltd. | Compounded detergent | Detergent | Liquid | 40% | Anionic | Stabilized light duty detergent (for hand dishwashing). |
| Sorapon S Slurry | | Sodium dodecyl benzene sulfonate | Detergent | Slurry | 45% | Anionic | Base for formulated liquid detergents. |
| Sorapon SX Slurry | | Sodium dodecyl benzene sulfonate | Detergent | Slurry | 44-46% | Anionic | Detergent for textile industry. |
| Sorapon S-40 | | SDBS plus sodium sulfate | Detergent | Powder | 40% | Anionic | Base for formulated detergents. |
| Sorapon S-96 | | Sodium dodecyl benzene sulfonate | Detergent | Flakes | 96% | Anionic | Base for formulated powdered detergents. |
| Sorapon T | Chemical Developments of Canada Ltd. | Triethanolamine salt of dodecyl benzene sulfonic acid | Detergent | Liquid | 60% | Anionic | Base for formulated detergents. |
| Sorapon TS | | Triethanolamine salt of dodecyl benzene sulfonic acid plus alkylolamide | Detergent | Liquid | 60% | Anionic | Formulated detergent. |
| Sotex 45A | Synthetic Chemicals, Inc. | Long chain fatty acid ester of multiple complex amino linkages | Emulsifier | Liquid | 100% | Cationic | Cationic polyamide epoxy coring agent. |
| Sotex #10 | | Long chain fatty acid ester of complex amino linkages | Emulsifier | Paste | 100% | Cationic | Cationic agent for epoxy formulations and cross linking polymerizations, with polyvinyl chlorides and acetates. |
| Speedy Fels | Fels & Co. | Blend of anionic and nonionic detergents and mixed phosphates | Detergent | Liquid | | Anionic | All-purpose liquid detergent. |

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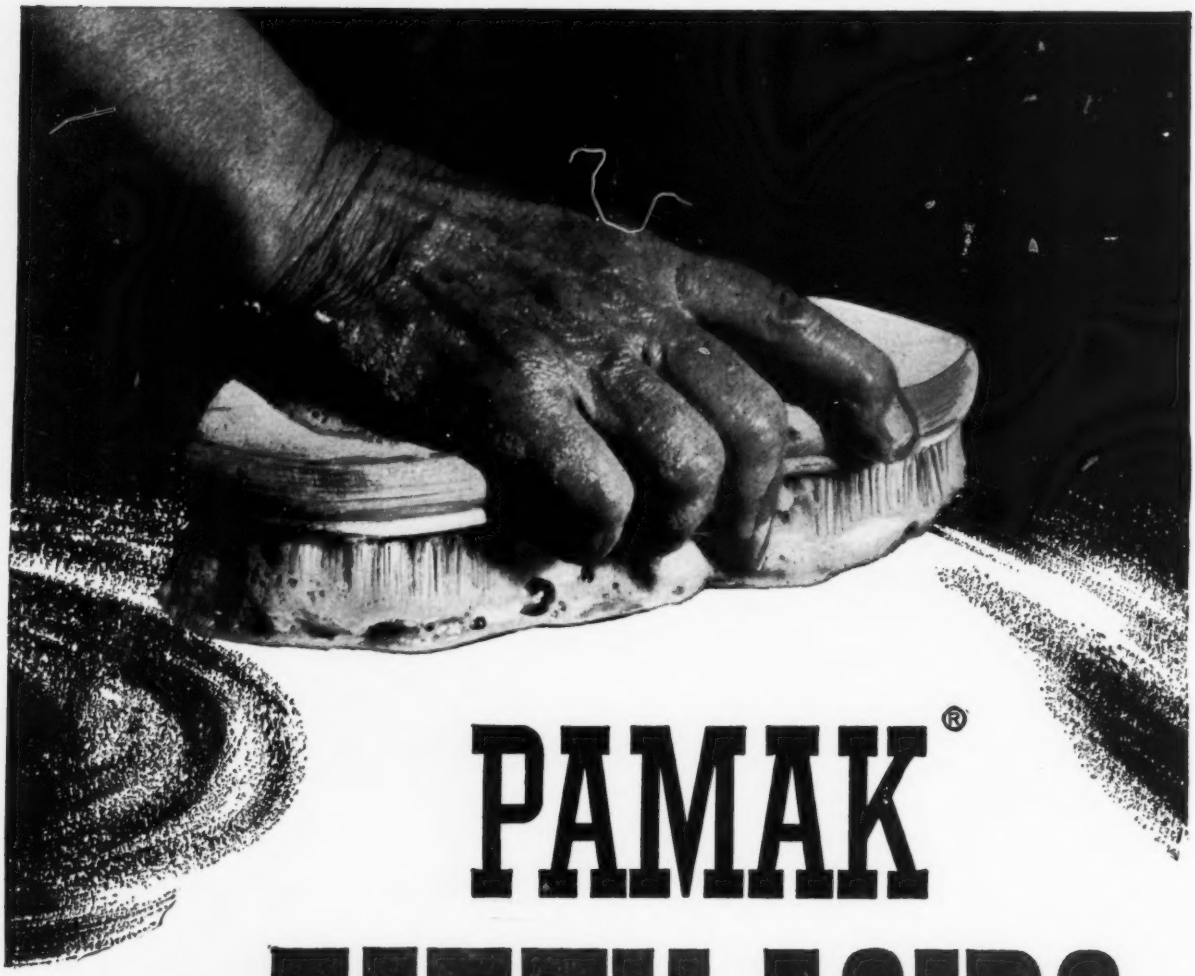

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- Polishes
- Repellents
- Rodenticides
- Sanitizers
- Skin protectants
- Stock sprays
- Sweeping compounds
- Wax strippers
- Weed chemicals and other
- Chemical Specialties

Charles E. Allderdice, Jr., president of Bell Co., Chicago, newly elected first vice-president of the Chemical Specialties Manufacturers Assn., presides at general session during 47th annual CSMA meeting in Hollywood, Fla., last month. Report of the meeting begins on page 69.

# During 1961...

DURING 1961, the Chemical Specialties Manufacturers Association stands ready to serve its members in the best American trade association tradition as it has since its founding in 1914. If you are a manufacturer of insecticides, disinfectants, aerosol products, automotive chemicals, soap and detergent specialties, floor maintenance products, or kinderd specialties, it could be to the advantage of your firm to check up on the benefits of membership.

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A. A. Mulliken
Secretary

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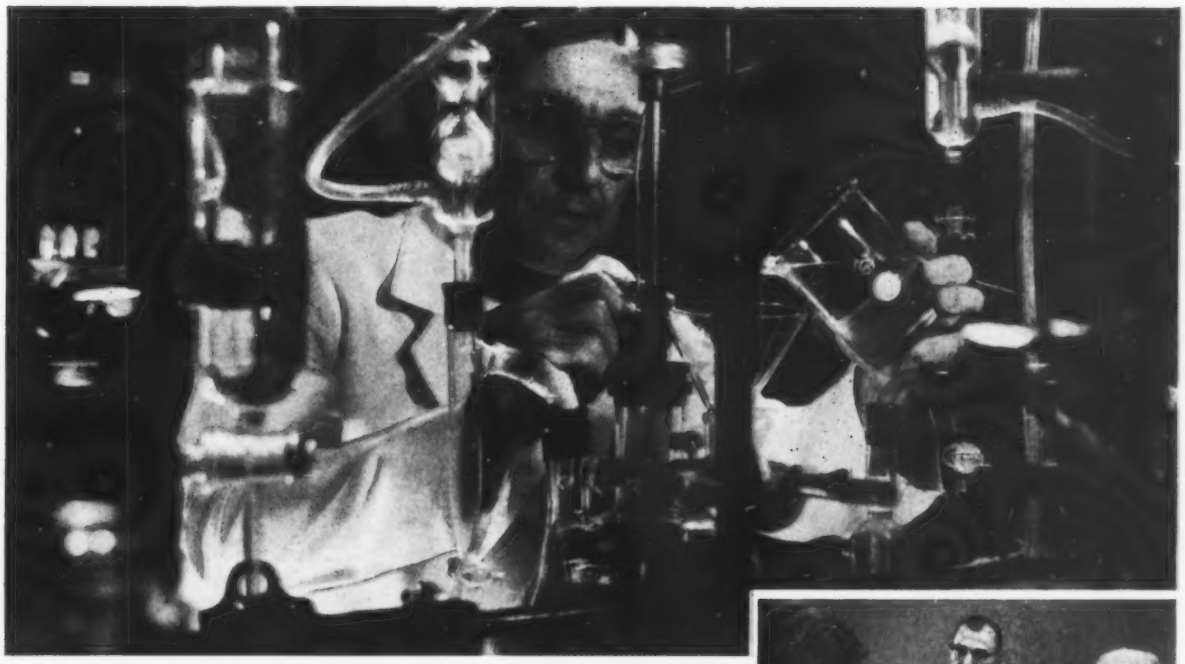

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# CSMA Meets, Elects Beach

## 47th annual meeting of chemical specialties makers hears cautiously optimistic view on 1961 economic conditions expressed by R. J. Saulnier, Eisenhower's chief economist

A SOMEWHAT cautiously optimistic view of economic conditions in 1961 was expressed by Dr. Raymond J. Saulnier, chairman of President Eisenhower's council of economic advisors, during the 47th annual meeting of the Chemical Specialties Manufacturers Assn., held Dec. 5-8 at the Hollywood Beach Hotel, Hollywood, Fla.

Dr. Saulnier's discussion tended to offset somewhat the effects of a panel on credit and finance aimed at aerosol loaders, which gave listeners the distinct impression that storm warnings were flying for this segment of the chemical specialties industry.

James Sheridan, treasurer of Allied Chemical Corp., New York, addressing the aerosol division, Dec. 7, pointed out that, "We now stand, I firmly believe, at a stage in our economic life when it behooves all of us to do three things: 1) Realize that business conditions are changing to an extent which will require a new adjustment of our measurements of good credit administration, 2) recognize how much of the evolution in credit practices in recent years is sound, and discard all that is unsound, and 3) aim at improvement of our liquid position."

Mr. Sheridan observed further: "Anyone who reads the papers or runs a business knows that it is getting harder to make a dollar. Whether this is a temporary phenomenon, or a more permanent situation as the result of working through the postwar boom I don't know, and I doubt that anyone is sure on this point." Mr. Sheridan expressed certainty that "the slowdown will come eventually." He added: "Any time a growing industry gets past its initial big upturn and its rate of growth begins to stabilize, then any planning beyond the clearly foreseeable future must take into consideration the possible appearance of the tapering off phase."

Mr. Sheridan also called attention to the " . . . deterioration in the strict observance of credit terms," which he stated, "has made it extremely difficult to administer accounts receivable and to carry out collection procedures according to some orderly arrangement." He said that "improvement will have to come through efforts by all parties involved – yourselves (fillers), your customers, and your customers' customers."

The "lack of overall or composite industry figures by which the individual (aerosol loading) company could judge its performance in, for example, the area of collection of accounts receivable," was cited by Mr. Sheridan.

In supporting his position that the "outlook is bright for the American economy as a whole," Dr. Raymond J. Saulnier, speaking at the general session Dec. 8, pointed out that "the number of people employed in the U. S. now is over 800,000 greater than at this time in 1959." He also reported that the amount of income received in the aggregate in 1960 is six per cent higher than in 1959.

"It is difficult for anything to happen to the economy as income rises," he said. "This is basic to the health of the economy," according to Dr. Saulnier. Although

**Retiring CSMA president, Dr. George W. Fiero of Esso-Standard Div., Humble Oil & Refining Co., New York, passes along gavel to Charles E. Beach, John C. Stalfort & Sons, Inc., Baltimore, newly elected president of CSMA.**

there has been a decline in employment and industrial production since the middle of the year, this has been "very small, though widespread," Dr. Saulnier reported. He said he does not regard the present period as one of "recession," which he defined as a period during which growth is not as rapid as it should be." He added that unless "further declines between now and next spring of appreciable degree are recorded" he doubted that what has happened today constitutes a recession. He described the present period as the "nearest thing to no overall change that can be."

"If what has happened to date is any guide, the decline that has occurred should not be extended much further. If it is a downturn, it will be the most modest the country has experienced in 25 years."

The meeting of the Chemical Specialties Manufacturers Assn. at the Hollywood Beach Hotel, scene also of the 1957 meeting, drew 938 registrants, A. A. Mulliken, CSMA secretary stated in his report at the Dec. 8 session. Close to 250 wives of members were present for the first annual meeting of the association which was closed to non-members. The Board of Governors of CSMA voted during the 47th annual meeting to return to Hollywood, Fla., for its 50th annual meeting, Dec. 7-13, 1963. The next meeting of CSMA, the 47th midyear, will be held at the Drake Hotel, Chicago, May 15, 16 and 17. In December, 1961, the association gathers for its 48th annual meeting at the Hotel Roosevelt, New York.

**Captions: Left to right, top to bottom: Jacob Kahn, Windsor Wax Co. and George A. Isenman, Beacon Co.**

**H. W. Moburg, Rex Research Corp. and Joseph H. Fredette, American Can Co.**

**Harold Suter, Wyandotte Chemicals Corp. and A. G. Peck, Peck's Products Co.**

**George F. Kerbey, Fairfield Chemical Division, Food Machinery and Chemical Corp. and Cameron Baird, Baird & McGuire Co.**

**Harry L. Haynes, Union Carbide Consumer Products Co., Division of Union Carbide Corp. and Carlos Kampmeier, Rohm & Haas Co.**

**Captions, Facing Page**

**Left to right, top to bottom: Anthony J. Hersh, Boyle-Midway Co., Division of American Home Products Corp.; A. G. Bowers, Pioneer Manufacturing Co; Gordon M. Baird, Baird & McGuire Co. Howard Williams and Ralph G. Boalt, J. R. Watkins Co.**

**Dr. Edmund G. Young, Freon Products Div., E. I. du Pont de Nemours & Co., Jacob Kahn, Windsor Wax Co.; C. L. Weirich, C. B. Dolge Co., and Cyril F. Kimball, Foster D. Snell, Inc. Adair Baker, Vestal, Inc., George J. Flanagan, Federal Varnish Division, Jules Bauer, Fritzsche Brothers, Inc.**

**Robert Reale, Pitt-Consol Chemical Co.; Victor DiGiacomo, Givaudan-Delawanna, Inc.; Mortimer A. Rosenheim, AMR Chemical Co., and Gordon C. Gilroy, Precision Valve Corp. Michael A. Lemmermeyer, Aromatic Products Co.; Mrs. Centa Iserman, Van Dyk Co., William Weed, Mantrose Corp., Joseph and Mrs. Sternberg, Mantrose Corp.**

**Anthony G. Grady, Sinclair Refining Co.; J. S. Baker, Rohm & Haas Co., and Jack Felton, Magnus, Mabee & Reynard, Inc. Harry Lawson, Federal Varnish Division; George Melvin, Gillespie-Rogers-Pyatt Co., and James Lewis, E. I. Lewis & Co.**

## *General Session, Dec. 5*

The 47th annual meeting of CSMA opened with a general session on the morning of Dec. 5. John Braun, manager of the Hollywood Beach Hotel, substituting for Frank L. Holland, manager of the Florida Agricultural Research Institute, Winter Haven, Fla., welcomed the delegates and presented a gavel to George W. Fiero, CSMA president. Dr. Fiero, who is with Esso Standard Division of Humble Oil & Refining Co., New York, then gave his address as president. The text of his talk appeared in the December issue of *Soap and Chemical Specialties*. His address was unique for a presidential report in that slides in color of various CSMA members to whom Dr. Fiero paid tribute were shown on a screen while he was speaking.

The election of officers and directors for 1961 took place next. The slate presented by the nominating committee, chairman of which was Leonard J. Oppenheimer of West Chemical Products, Inc., Long Island City, N. Y., was unanimously elected.

President, Charles E. Beach, Jr., vice-president and general manager of John C. Stalfort & Sons, Inc., Baltimore; first vice-president, Charles E. Allderdice, Jr., Bell Co., Chicago; second vice-president, Donald J. Templeton, Stanley Home Products, Inc., Easthampton, Mass.; treasurer, Frederick G. Lodes, Lodes Aerosol Consultants, Inc., New York, and secretary, Alfred A. Mulliken, CSMA.

Elected to the Board of Governors for three-year terms were George W. Fiero, Esso Standard Division, Humble Oil & Refining Co., New York; John A. Rodda, Fairfield Chemical Division, Food Machinery & Chemical Corp., New York, and Joseph J. Tomlinson, General Chemical Division, Allied Chemical Corp., New York.

Division executive boards, elected at the 46th midyear meeting of CSMA in Chicago, last May, took office following the annual meeting last month.

New division chairmen for 1961 include George Barr, G. Barr and Co., Chicago, Aerosol Division; A. E. Tongue, Olin Mathieson Chemical Corp., Baltimore, Automotive Division; Lester D. Berger, Jr., Union Carbide Chemicals Co., New York, Detergent and Cleaning Compounds Division; Mark L. Hill, Gulf Oil Corp., Philadelphia, Insecticide Division. Division chairman reelected for another term last May are Earl Brenn, Huntington Laboratories, Inc., Huntington, Ind., Waxes and Floor Finishes, and Claude J. D'Angio, Airkem, Inc., New York, Disinfectants and Sanitizers Division.

A panel discussion of the new Federal Hazardous Substances Labeling Act was one of the highlights of the first general session, Dec. 5. The panel was preceded by the presentation of awards to the winners of the Aerosol Package Contest and a discussion of "The World Today" by William L. Shirer, author and foreign correspondent.

A review of the principal provisions of the Federal Hazardous Substances Labeling Act, as well as some of the background for the development and enactment of this law, was presented by Dr. E. G. Klarmann, first of three speakers participating in a panel discussion of the new law.

"Of all the requirements of the Federal Hazardous Substances Labeling Act, the one which cautions against leaving a hazardous product within the reach of children must be considered most important," according to Dr. Klarmann. The reason for this, he explained, is that "many thousands of children under the age of 15 swallow some household products every year, and that several hundred of them pay with their lives." Dr. Klarmann is vice-president and manager of technical services of Lehn & Fink Products Corp., New York, and also serves as chairman of the precautionary labeling committee of CSMA.

Dr. Klarmann also expressed the hope that "the passage of the Federal Hazardous Substances Labeling Act will help provide a pattern of pertinent legislative uniformity throughout the country, in spite of the early adoption by several states of cautionary labeling laws which, therefore differ from the federal law or from each other in some essential details. It should be easy to visualize the difficulties which would confront a manufacturer, if he were required to comply with the different and sometimes conflicting provisions of numerous individual state laws." It would also be helpful, according to Dr. Klarmann, if the states would wait for the Food and Drug Administration, "having drawn upon its extensive scientific and legal resources," to publish regulations to the federal statute, "thereby providing effective leadership in this new field."

The second speaker of the panel on labeling hazardous substances was William W. Goodrich, assistant general counsel for food and drugs, U. S. Dept. of Health, Education, and Welfare. In discussing "How to Comply with the New Federal Hazardous Substances Labeling Act," Mr. Goodrich explained that this title was not chosen as an accurate description of the contents of his paper, but to "emphasize that compliance with the new law will be largely a, do-it-yourself operation."

The job of FDA is to assist chemical specialties manufacturers, and to effect correction through regulatory action when articles which should, but do not, bear proper labeling warnings, Mr. Goodrich stated.

Summing up his answer on "How to Comply," Mr. Goodrich told chemical specialties makers to take the following six steps:

"1. Inventory your products, and on the basis of scientific evaluation decide whether they are toxic, highly toxic, corrosive, irritant, flammable, etc.

"2. Decide whether the package is suitable for household use.

"3. Follow the directions in the law in devising the label.

"4. Look for our proposed regu-

### Captions, Facing Page

**Left to right, top to bottom: Robert K. Rigger, Wyandotte Chemicals Corp.; Leslie G. Wizemann, National Aniline Division, Allied Chemical Corp., Lester D. Berger, Jr., Union Carbide Chemicals Co., Division of Union Carbide Corp.; and William S. Jessop, U. S. Sanitary Specialties Corp. W. Earl Graham, Clayton Corp.; Joseph E. Lee, McLaughlin Gormley King Co., James Bampton, Krylon, Inc. and Paul D. Torpin, MGK.**

**Harold V. Schmidt, Federal Varnish Division, Alfred A. Mulliken, secretary, CSMA, and Glenn E. Doerr, Federal Varnish. E. D. Bennett, Jr., Fluid Chemical Co. and Charles Wirth, Freon Products Division, E. I. du Pont de Nemours & Co.**

**A. M. Fischer and D. C. Stein, Union Carbide Consumer Products Co., Division of Union Carbide Corp., New York, and E. H DuVal, Union Carbide Chemicals Co., Division of Union Carbide Corp. Mrs. Robert (Kitty) L. Ackerly; Dr. Emil G. Klarmann, Lehn & Fink Products Corp.; William W. Goodrich, Food and Drug Administration, Department of Health, Education, and Welfare, and Robert L. Ackerly, Cummings, Sellers, Reeves and Conner, CSMA legal counsel.**

**Lyons B. Joel, Selig Co.; Irwin Y. Straus, Dura Commodities Corp., and Stanley Svedas, Turtle Wax Co. Richard B. Wearn, Colgate-Palmolive Co.; W. W. Langton, Permatex Co., and E. R. Weidlein, Jr., Union Carbide Corp.**

lations soon to be published and offer constructive comment on them. When the final regulations are promulgated, use them as an aid to compliance.

"5. Place your name on file with the Food and Drug Administration's Division of Public Information so that educational material may be sent to you.

"6. As to products about which you are uncertain, write to the Food and Drug Administration, giving the full quantitative composition, a copy of the proposed label and any relevant information such as toxicity data, flash point, etc., available to you, a description of intended uses, and the reasons why you believe the articles are or are not subject to the new law.

"The Food and Drug Administration will as promptly as possible offer an opinion on the proper labeling for the article."

Final speaker of the panel, George T. Scriba of Union Carbide Chemicals Co., New York, by means of slides showed typical labels for products of his company. These labels had been revised to comply with the new Hazardous Substances Labeling Law.

### *Detergents, Cleaning Comp.*

A symposium on packaging of household products in water soluble film packets was the opening feature of the Detergent and Cleaning Compounds Division session, Dec. 6. Moderator for the panel was R. K. Rigger of Wyandotte Chemicals Corp., Wyandotte, Mich. The first speaker, Richard B. Wearn of Colgate-Palmolive Co., Jersey City, N. J., in discussing "The Development and Marketing of Household Products in Water Soluble Film," gave the case history of one of his company's products now marketed in foil packets. Mr. Wearn's paper appears in full beginning on page 123.

Reasons why Borden Chemical Co., a division of Borden Co., New York, embarked on a research program to develop a cold water soluble film former and the properties of Borden's "Lemoflex" brand water soluble resin used in films for packets for household chemical specialties were discussed by the second speaker of the symposium. The speaker, David F. Lowry, manager of new products for Bordon Chemical Co., listed the following properties of cold water soluble film based on "Lemoflex" resin that indicate its good packaging performance:

1. Tensile strength.....at 50% RH-4000 psi
2. Tear.....at 50% RH-100 gm/mil.
3. 100% Modulus at 50% RH-2000 1000 psi
4. Heat seal at 260°F. 1 sec. dwell, 20 psi

At water temperatures of 100°F. the solution time of the film is usually less than one minute and always less than two minutes, according to Mr. Lowry.

A review of the development of water soluble films for packaging of chemical specialties was contained in a paper by Woodrow J. Vogel, general manager of the plastics division of Reynolds Metal Co., Richmond, Va. Mr. Vogel pointed out that "while polyvinyl alcohol is currently the only commercial article available in the water soluble field, constant studies are being made to reduce the cost of these films without sacrifice in quality." He revealed that his company now has an accelerated research and development program with the following objectives. "1. improved solubility and heat seal-ability; 2. improved low temperature flexibility, and 3. even closer tolerance control of the physical parameters." Mr. Vogel said that his company has "already achieved a film that in 140°F. water will release its contents within 45 seconds and completely dissolve within five minutes. As the temperature of the water is lowered, the rate of solubility correspondingly decreases. In normal household laundry applications, where water temperatures of less than 90°F. are rarely encountered, solubility rates have been satisfactory. Where lower temperatures are experienced, such as in typical bowl cleaner applications, solubility is marginal."

"We look forward to further improvements stemming from improved techniques in resin processing, control of by-product plasticizers, studies of molecular weight control, etc." Mr. Vogel concluded.

The final contribution of the symposium, "The Development and Use of 'Polyox' as a Water Soluble Packaging Material," by Fred W. Stone of Union Carbide Chemicals Co., South Charleston, W. Va., appears in full beginning on page 46.

Development of an alkanol amide which does not adversely affect the bactericidal properties of a hard surface cleaner containing a phenolic type germicide was reported on in a paper by C. F. Moculeski and Loretta Ciszak of Clintwood Chemical Co., Chicago. According to the authors, detergent formulations prepared with non-ionic surfactants and phenolic type germicides are known to lose their germ killing ability rapidly with aging. An alkanolamide has been developed to overcome this loss of germicidal properties. Phenol coefficient studies of a freshly prepared hard surface cleaner, and one prepared with the alkanolamide and aged seven months, showed no significant loss in potency, the authors reported.

The use of dust mops treated with a cationic agent that serves as a bacteriostat and "lint arresting agents" can "do much toward preventing the spread of

### Captions, Facing Page

**Left to right, top to bottom: Mrs. Henry Blanchford; John D. Conner, Cummings, Sellers, Reeves and Conner, CSMA legal counsel; and Henry Blanchford, Mantrose Corp. Mrs. Robert Elias; Robert Elias, Felton Chemical Co.; Mrs. Meyer Malakoff and Meyer Malakoff, Warner-Lambert Corp.**

**Paul J. Ketrick, Ultra Chemical Works, Inc.; Richard Egan, Tidy House Products Co.; Mrs. Leslie G. Wizemann and Leslie G. Wizemann, National Aniline Division, Allied Chemical Corp.**

**Mrs. Morris (Margaret) Weiss; Mrs. James (Lois) Bampton, James Bampton, Krylon, Inc., Mrs. David (Betsy) Bagenstose; David Bagenstose, Krylon, Inc., and Morris Weiss, Seaboard Laboratories, Inc.**

**James D. Russo, Aerosol Techniques, Inc., Irving Lipman, Acme Shellac Products Co., and Herman R. Shepherd, Aerosol Techniques, Inc. Irving Gaines and Fritz O. Robitschek, Onyx Chemical Corp., and C. R. Stull, Rohm & Haas Co.**

**E. L. Collins, Chilean Nitrate Sales Corp.; William A. Smith, The House of J. Hayden Twiss, and Kenneth Hartley, Dodge & Olcott, Inc. Chester Davis, Toni Co., H. K. Rosenbaum, La Maur, Inc.; Hans Mannheimer, Miranol Co.**

infection by lint reduction" and minimizing "transfer of microorganisms" in hospitals and industrial plants. This view was expressed in a paper, "Antibacterial Treatment for Dust Mops," by J. C. Sherrill, manager of technical sales of the industrial soap department of Armour & Co., Chicago. Special treatment of mops as a regular part of the reprocessing (washing) step makes them particularly effective in picking up dust, and renders them superior to ordinary dry dusting techniques, according to Mr. Sherrill.

The description of and results obtained, using "A Rapid Photographic Method for Evaluation of Bleaching Agents" were covered in a paper of that title by Raymond L. Liss and Thomas B. Hilton of Monsanto Chemical Co., St. Louis. With the method, elaborate soiled cloth preparations are eliminated and various soils and stains can be prepared for testing by preparing aqueous solutions or dispersions. Correlation of evaluation results obtained with artificially stained fabrics has been satisfactory, according to Mr. Liss who presented the paper. The use of colored slides makes possible a permanent record and the presentation of results in a simple, convenient manner, which eliminates the necessity for comprehension of complicated multi-component color measurement and analysis.

### *Insecticide Division*

A detailed report on the activities and responsibilities of the chemist in the administration of the Federal Insecticide, Fungicide, and Rodenticide Act was presented by Thomas H. Harris of the U. S. Department of Agriculture in the opening paper of the Insecticide Division meeting, Dec. 6. The paper, entitled, "The Role of Chemistry in the Administration of the Federal Insecticide, Fungicide, and Rodenticide Act" was co-authored by Mr. Harris, Clarence G. Donovan and Robert L. Caswell.

"Chemistry," according to Mr. Harris, "plays a key role in the administration of this Act and the responsibilities which have been assigned to the Chemistry Section may be grouped into two major areas: registration and enforcement.

A review of "The Imported Fire Ant Program" was discussed in a paper of that title by C. C. Fancher of the U. S. Dept. of Agriculture, Agricultural Research Service, Southern Plant Pest Control Region, Gulfport, Miss. Mr. Fancher used a number of slides to illustrate and describe the infestation and its handling.

The third speaker of the session, Miss Jane Lewis of the Business and Defense Services Administration, U. S. Dept. of Commerce, discussed "The Role of BDSA in Government and Industry Activities" in a paper of that title.

Use of a 0.5% solution of "Vapona" (DDVP) insecticide, applied by a pest control operator using accepted procedures, does not produce atmospheric concentrations that are a hazard to human beings during and following application. This conclusion was reached in a report on the pesticide by E. A. Neuwirth and T. T. White of Shell Chemical Co., New York. The paper, "Atmospheric Concentration of 'Vapona' Insecticide During and Following Its Application in Various Dwellings," was presented by Mr. Neuwirth.

Air-contamination data obtained in the study indicate that, "if errors occur either in dilution or excessive dosage up to five times those recommended, inhabitants of the treated dwellings would still not be exposed to a hazardous condition.

### *Waxes, Floor Finishes*

New monomers and new methods of combining these monomers are appearing every month and should increase the scope of polymers still further in floor finishes, according to Richard H. Cahill and Lloyd H. Perry of UBS Chemical Co., Cambridge, Mass. The "appearance of new monomers with attached side groups of potential chemical activity (makes) it appear that improved intramolecular cohesion (will be) a powerful tool to provide added life to polymer floor polishes." Included among the monomers that have potential use in floor polishes, according to the authors, are: acrylic and itaconic acids; glycol esters (alcohols); such ethers as polyethylene oxide esters; pyridine or amino type amines, and such halogens as halogenated styrene or acrylates. According to the authors, work with these monomers will certainly result in considerable improvement in floor polish durability during the next year or two."

In their paper, "The Future of Polymers in Floor Polish," the authors summarize by stating that there is an extremely large amount of technical effort being expended in development and improvement of polymers for all types of coatings. This extensive program is going to make available to the floor polish industry at an increasing pace a whole range of new polymers that will enable (manufacturers) to make significant improvements in several areas." These include gloss, durability and removability, the authors state. As a result, polymer latices will play an even greater role in polishes than at present, but other ingredients such as waxes and resins will also continue to be important constituents."

By addition of the right amount of surfactant and using polymers to thicken the continuous liquid phase a "practical service life" can be provided for most commerical emulsions, it was pointed out by R. J. Meyer of B. F. Goodrich Chemical Co., Avon Lake, O. Such a method does involve "some sacrifice in properties," he said. Mr. Meyer's paper, co-authored by J. S. Wolff, titled, "Emulsification and Emulsion Stabilization with

(*Turn to Page* 97)

# Eastman now offers polish formulators 7 basic types of polyethylene

## New Epolene resins enable you to formulate broader range of liquid and paste polishes

The wide range of physical properties now available in Eastman's Epolene series of low-molecular-weight polyethylene resins provides formulating flexibility never before possible. For with the addition of three new resins (Epolene LVE, HDE and HD), polish makers can choose now from among seven different types to improve existing formulations or to develop new products.

Epolene resins produce self-polishing floor polishes that exhibit high gloss, anti-slip, water-spotting resistance and rebuffability. Emulsions of up to 40% solids can be prepared. Properly formulated, polishes made from Epolene are low in color and do not darken or turn yellow. Neither do they build up color with repeated applications.

Choose from either emulsifiable or non-emulsifiable types to obtain the right formulating characteristics and performance properties for your equipment and service.

**Epolene E** *emulsifiable* • Epolene E produces water-emulsion floor polishes that exhibit an excellent balance of high gloss, hardness, durability and good resistance to water-spotting, scuff and dirt pick-up. Ideally suited for heavy traffic, polishes made from Epolene E exhibit extreme toughness due to its higher molecular weight.

**Epolene LVE** *emulsifiable* • Lower in melt viscosity than the other emulsifiable Epolene resins, Epolene LVE has somewhat better handling characteristics and is the easiest to emulsify. It is softer than other resins in the series, too, and therefore may be expected to contribute better anti-slip properties and rebuffability to floor polishes made from it.

**Epolene HDE** *emulsifiable* • The first high-density emulsifiable polyethylene available, Epolene HDE is much harder than other resins in the series, yet quite easy to handle. A film of unmodified Epolene HDE emulsion is almost as hard as a film from a finished floor-wax formulation (rebuffable type). This increased hardness is due not only to the nature of this high-density polyethylene, but also to the fact that it is more compatible with oleic acid than are other emulsifiable polyethylenes. Epolene HDE restores rebuffability to polymer-containing polish formulations without sacrificing hardness.

**Epolene N** *non-emulsifiable* • Epolene N can improve significantly the properties of paraffin, microcrystalline or other waxes and is easily blended with these materials. It can replace part or all of the hard waxes in solvent paste polishes, for example, automotive polishes. Such polishes are characterized by low color, excellent hardness and gloss, and remarkable durability.

**Epolene LV** *non-emulsifiable* • Epolene LV and Epolene N are useful in similar applications. The LV type is softer than Epolene N, however, and because of its lower melt viscosity is somewhat easier to handle.

**Epolene HD** *non-emulsifiable* • An extremely hard material, Epolene HD is nevertheless easy to handle because of its low melt viscosity. It has a high softening point, and may be blended with waxes to increase their melting points. Epolene HD has a higher density than the other non-emulsifiable polyethylenes in the series.

**Epolene C** *non-emulsifiable* • Higher in molecular weight (7000) but lowest in density (0.907) of all the Epolene resins, Epolene C may be used in modifying waxes to increase melting points or to improve toughness and gloss.

| Type | Molecular Weight | Brookfield Viscosity (cps. @ 120°C.) | Density | Penetration Hardness (100g./5sec./ 77°F., 10ths of mm.) |
|---|---|---|---|---|
| Epolene E | 2500 | 1500 | 0.938 | 2 |
| Epolene HDE | 1500 | 455 | 0.956 | 1 |
| Epolene LVE | 1500 | 400 | 0.939 | 5 |
| Epolene N | 2500 | 2500 | 0.928 | 1 |
| Epolene HD | 1500 | 340 | 0.938 | 0.5 |
| Epolene LV | 1500 | 360 | 0.925 | 3 |
| Epolene C | 7000 | 16,000 | 0.907 | 7 |

*If you are using low-molecular-weight polyethylenes in your polishes, investigate the complete Epolene series. Your Eastman representative will gladly explain the advantages of each of the resins in the series and will show you how to realize the most profitable use of them in your formulations. Ask him for specific formulating assistance and about the new time-saving, cost-cutting emulsifying technique developed at our laboratories.*

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An article detailing the procedures and results of the tests has been published in the August, 1960 issue of "Soap and Chemical Specialties". Reprints and further information may be obtained by mailing the coupon below.

Cordially,

ROHM & HAAS COMPANY
Agricultural & Sanitary
Chemicals Department

CARLOS KAMPMEIER

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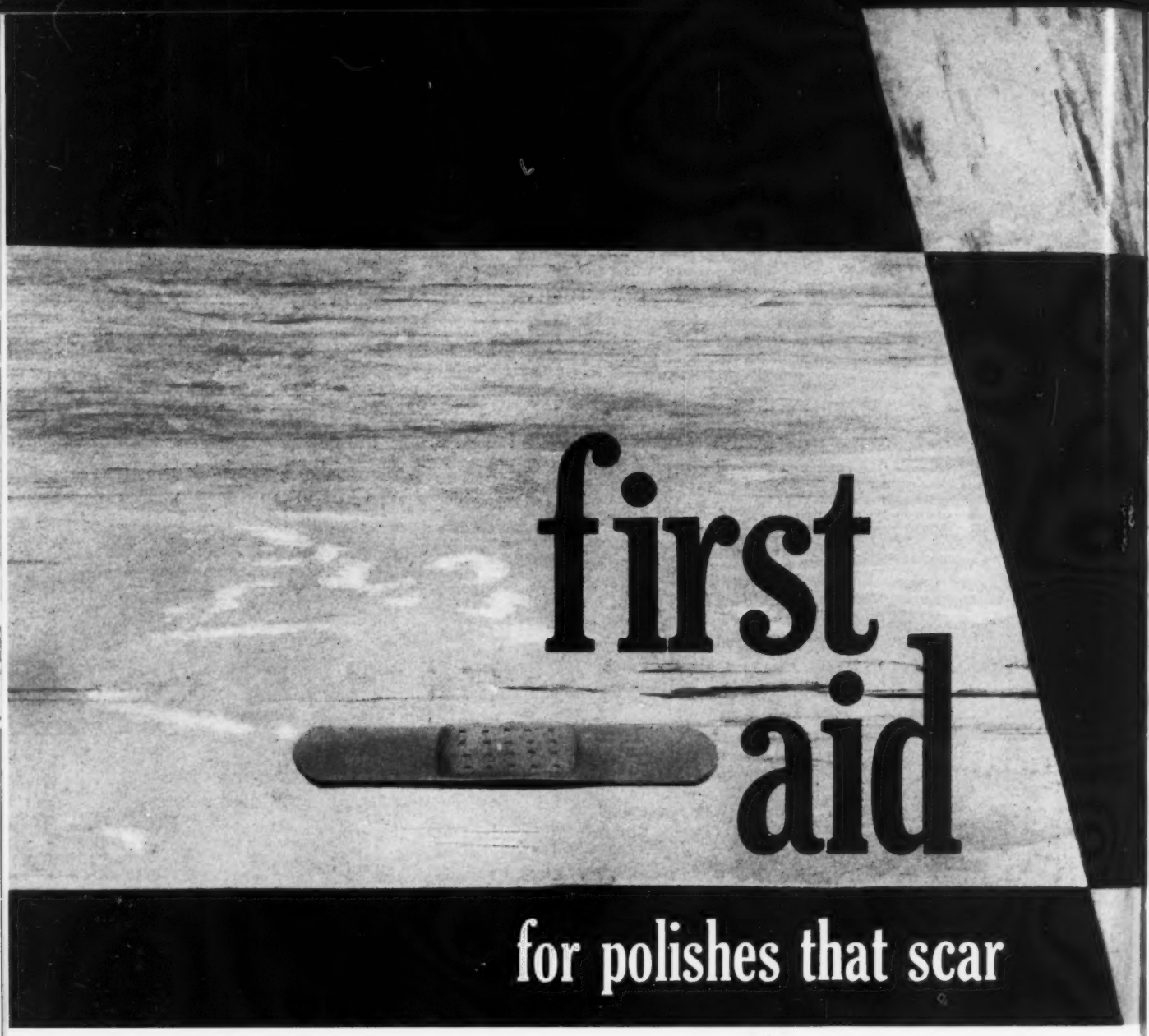
TO CATTLE SPRAY FORMULATORS

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# Floor Polish Concentrates

**By Klaus S. Treviranus* and Robert J. Turner,**
Morton Chemical Co.,
Woodstock, Ill.

RECENT developments in the manufacture of polymer latices of high solids concentration, specifically designed for the floor polish industry, enable a formulator to produce concentrated polishes of solids content heretofore unattainable. With these highly concentrated polishes the formulator is able to ship to jobbers, or to his own distribution centers in distant cities, a polish that can be reduced to normal solids by the simple addition of water.

Most obvious advantage of these concentrated polishes is in the savings that can be realized on freight costs. To demonstrate this, Table I shows the cost involved in shipping a 40% solids polish formulation between several cities and the savings realized on the dilute 13% polish which may be prepared from it. Three pairs of cities, approximately 1,000, 2,000 and 3,000 miles apart, were chosen for comparison. Freight savings on the dilute 13% polish, of course, equal two-thirds of the actual freight cost per gallon.

As an example, the actual freight cost for floor polish between Chicago and Los Angeles is 34 cents per gallon in truckload quantities. Net savings on the diluted polish are then equal to two-thirds of 34 cents or 23 cents per gallon. Total savings on a gallon of concentrate are three times as much or 69 cents. On longer distances the total savings in freight alone amount to a reasonable share of the formulator's profit.

In addition to cutting freight costs by shipping a concentrated polish, the formulator also saves freight when purchasing a concentrated latex to prepare the polish. For example, the freight for shipping a drum of 50% solids latex from Chicago to Los Angeles is $22.80 in less than truckload quantities. To ship the same amount of solids as a 36% solids latex would cost $31.70, or an additional $8.90. Thus approximately another three cents per gallon on the diluted polish cost or nine cents per gallon of concentrated polish can be saved.

Some of the problems associated with the manufacture of polishes of high solids need special attention. Obviously, the concentrated polish, on dilution, must give a product competitive with or superior in performance to polishes already on the market. Gloss, leveling, water resistance, scuff resistance, resistance to powdering, shelf stability, freeze-thaw resistance, and all other necessary attributes of a floor polish must be adequate in the diluted polish. Therefore, a given formulation must first be carefully screened at normal solids before an attempt is made to produce the concentrated version.

However, we will assume that the properties of the diluted polish are satisfactory, and will turn our attention to the additional properties required in a concentrate in order to obtain a satisfactory and salable product.

### *Shelf Stability*

Most important property in the concentrate is shelf stability. Formulators should have at least a month and preferably up to eight months of shelf stability in the concentrated product. This enables them to manufacture the concen-

**Table I. Freight Savings Realized by Shipping Polish Concentrates**

| Cities | Distance in miles | Actual freight cost/gal. | | Net savings per gallon on diluted (13%) polish by shipping concentrate at 40% | | Total freight savings per gallon concentrate | |
|---|---|---|---|---|---|---|---|
| | | LTL | TL | LTL | TL | LTL | TL |
| Chicago to New Orleans | 940 | $0.23 | $0.155 | $0.15 | $0.10 | $0.30 | $0.20 |
| Chicago to Los Angeles | 2,150 | 0.39 | 0.34 | 0.29 | 0.23 | 0.58 | 0.46 |
| Philadelphia to Seattle | 2,864 | 0.575 | 0.435 | 0.38 | 0.29 | 0.76 | 0.58 |

*Paper presented at 47th annual meeting, Chemical Specialties Manufacturers Association, Hollywood, Fla., Dec. 6, 1960.

trated polish and ship it to their distribution centers with an adequate margin of safety.

Formulators generally employ aging tests at elevated temperatures to estimate whether or not their products will have adequate shelf life at room temperature. Prolonged shelf tests at room temperature to substantiate the oven tests are also used. Sometimes, shelf data cannot be obtained quickly on every possible variation of the formulation and a correlation between oven life and shelf life is used instead. This technique can also be employed for concentrated polishes. To illustrate the type of correlation that was obtained, the shelf stability of some typical concentrated formulations has been plotted in Figure 1 against the accelerated aging test at 125°F. These data show that remarkably stable formulations, lasting up to eight months and over, were obtained at high solids. It also is apparent that very unstable formulations were quite easily prepared.

Note that in this particular series of formulations an approximately straight line correlation between shelf life and oven life was obtained. This was not always true, as some formulas were produced which had a short oven life but which seemed to last indefinitely on the shelf.

### *Formula and Stability*

Factors which markedly affected stability were type and concentration of the leveling resin, the wax and plasticizer components. Naturally, the polymer latex type used was also very important. In the 40% solids Formula A in which the latex was held constant, a wide difference was noted in the effect of different resins and waxes on the stability. Some combinations gelled in an hour or two in the oven while others easily lasted a week or more at elevated temperatures.

In this particular polystyrene based formula (A) the emulsified microcrystalline waxes and oxidized Fischer-Tropsch waxes that were tested proved to be much less stable than emulsified polyethylene. In addition, the harder emulsifiable polyethylenes gave much better stability than the softer grades.

| Formula A. (40% Solids) | | | |
|---|---|---|---|
| | % as is | 100% basis | % composition (solids basis) |
| RWL-110 Modified Polystyrene Latex (50% solids) | 56.0 | 28.0 | 69.5 |
| Leveling resin (25% solids-Polyethylene emulsion) (25% solids) | 13.5 | 3.4 | 8.4 |
| Plasticizers | 21.6 | 5.4 | 13.4 |
| Water | 3.5 | 3.5 | 8.7 |
| | 5.4 | 59.7 | — |
| | 100.0 | 100.0 | 100.0 |

Alkali soluble resins varied widely in their effect on polish stability. For example, one resin supplied by a manufacturer would produce a stable formulation while another resin of the same type by the same supplier would cause almost instant gelation. Attempts were made to correlate polish stability versus acid number, hydroxyl number, melting point and solution viscosity (25% ammonia cut) of the resins but with no success to date. More information on the actual chemical composition of the resin might have been of assistance in developing a correlation.

Rather surprisingly, freeze-thaw stability of concentrated formulas, was not a problem. Concentrated formulas of good shelf stability generally survived several cycles of freeze-thaw.

Viscosities of concentrated formulas are also important. It was decided to maintain a formulation viscosity of less than 100 cps to minimize any possible handling problems. Here, viscosity of the latex used in the formulation was critical, as well as viscosities of leveling resin solutions and wax emulsions. Morton's "RWL-110" latex which is manufactured at a viscosity of less than 200 cps was found to be quite satisfactory. Some leveling resin solutions caused difficulty because they were too viscous at high solids concen-

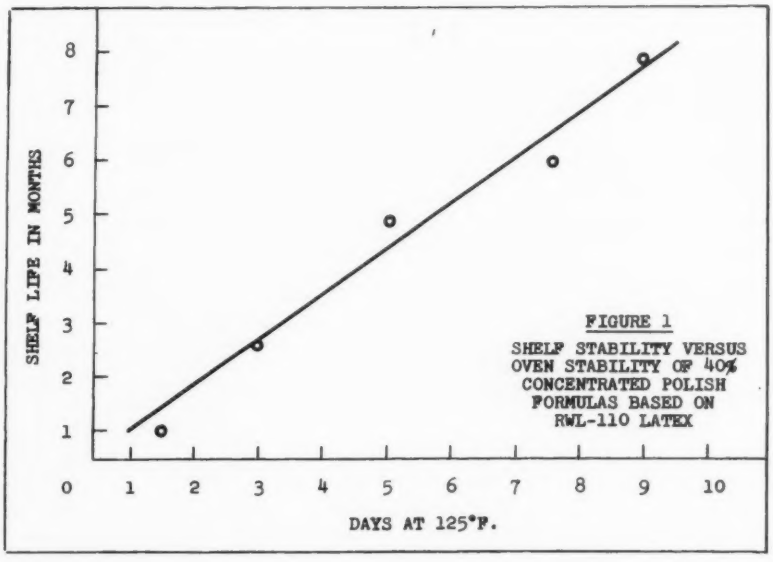


FIGURE 1
SHELF STABILITY VERSUS OVEN STABILITY OF 40% CONCENTRATED POLISH FORMULAS BASED ON RWL-110 LATEX

trations. However, leveling resins are now available which can be prepared at 40-45% solids concentrations. These show good promise for use in concentrated polish formulations.

Polyethylene emulsions of even higher solids concentration than we have used would be desirable to increase the total solids content of the formulation. In fact, using high solids resin solutions and 30% polyethylene emulsions, formulas approaching 50% solids have recently been developed in our laboratory with the "RWL-110" latex.

Plasticization proved to be another problem in the concentrated formulas. Generally, plasticizers were added as a last step. For instance, "RWL-110" at 50% solids does not accept plasticizers. However, the polish at 40% solids was readily plasticized. Occasionally, sedimentation occurred after plasticization. Some plasticizers were more prone to cause precipitation than others. Tributoxyethylphosphate as the sole plasticizer caused sediment. However, it is still recommended as at least a major constituent in a plasticizer mix because of its excellent leveling action. In contrast, some plasticizers such as dibutylphthalate, polyethyleneglycol dibenzoate, dibutoxyethylphthalate and triethylphosphate, did not cause sedimentation but showed insufficient leveling action. Therefore, a combination of plasticizers was used for minimum sedimentation and maximum leveling and stability.

It is recommended that three times the normal amount of preservative be added directly to the concentrated polish. This dose adequately protects the concentrate, and ensures safety of the diluted formula from bacterial attack.

Most of our studies on the concentrated polystyrene polish formulations were done at a pH of 9.5-10 since it was noted that high pH levels tended to prolong shelf life. In these ranges, small differences in pH had very little effect on stability. In diluting the concentrated polish to normal solids, the use of softened water is recommended although water of a reasonable hardness number (up to 150 ppm) is satisfactory. Adjustment of pH after dilution was not necessary.

In addition to the polystyrene polish formulations, concentrated acrylic polish formulations have been prepared by the procedures described above. A typical 45% solids polish formulation of excellent shelf stability based on Morton's "RWL-201" acrylic latex is given as an example (Formula B).

## Summary

Problems and advantages associated with the manufacture of high solids polishes from several high solids polymer latices have been described. As other high solids latices become available, we can expect to see more high solids polish formulations. These will be based not only on polystyrene and acrylic latices, but on mixtures of the two and copolymer and terpolymer latices. Undoubtedly the same principles that have been discussed in this paper will be applicable to these formulations of the future.■

**Formula B.**
**(45% Solids)**

| | % as is | 100% basis | % composition (solids basis) |
|---|---|---|---|
| RWL-201-45 Acrylic latex (45% solids) | 70.0 | 31.5 | 69.5 |
| Leveling resin (40% solids) | 12.0 | 4.8 | 10.6 |
| Polyethylene emulsion (25% solids) | 10.0 | 2.5 | 5.5 |
| Plasticizers | 6.5 | 6.5 | 14.4 |
| Water | 1.5 | 54.7 | — |
| | 100.0 | 100.0 | 100.0 |

★

## U.S.D.A. Finds African Tick

Discoveries of red ticks on zoo animals near Tampa, Fla., and at Hudson, N. Y. are the second and third occurences of this livestock pest reported in the United States within recent months.

Both infestations have been traced to a recent shipment of zebras from Africa.

First discovery of red ticks in this country was in early October, when the pest was found in an animal compound near Boca Raton, Fla.

USDA officials are cooperating with state animal health authorities and zoo personnel in New York and Florida to carry out preventive measures similar to those instituted in October at Boca Raton. These include placing the zoos under quarantine; insecticide treatment of animals, premises, and surrounding areas; thorough inspection of other animals both in the zoos and in nearby areas.

USDA also reported the discovery of screwworms in Tampa, Fla. A racing greyhound, transported from Kansas was found to be infested with the parasite.

Officials are trying to determine the degree of hazard presented by this single case. Facts obtained, will guide them in determining steps necessary to avoid establishment of screwworms in the area, where the pest could overwinter.

★

## A.O.C.S. Coming Events

The 34th annual meeting of the American Oil Chemists' Society will be held May 1-3 at the Sheraton-Jefferson hotel, St. Louis.

The meeting will feature sessions on soap and detergents, composition and processing of fats, oils, and fatty acids. T. J. Potts, Ralston Purina Co., St. Louis, is program chairman.

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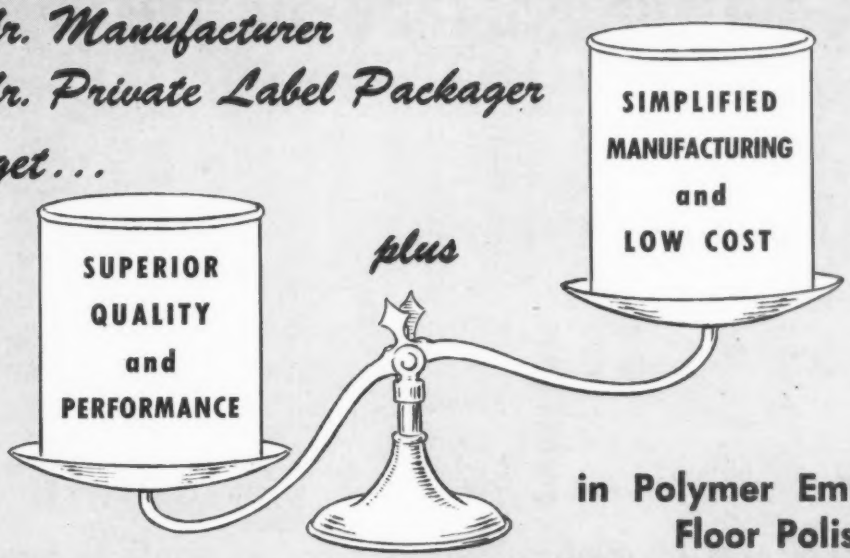


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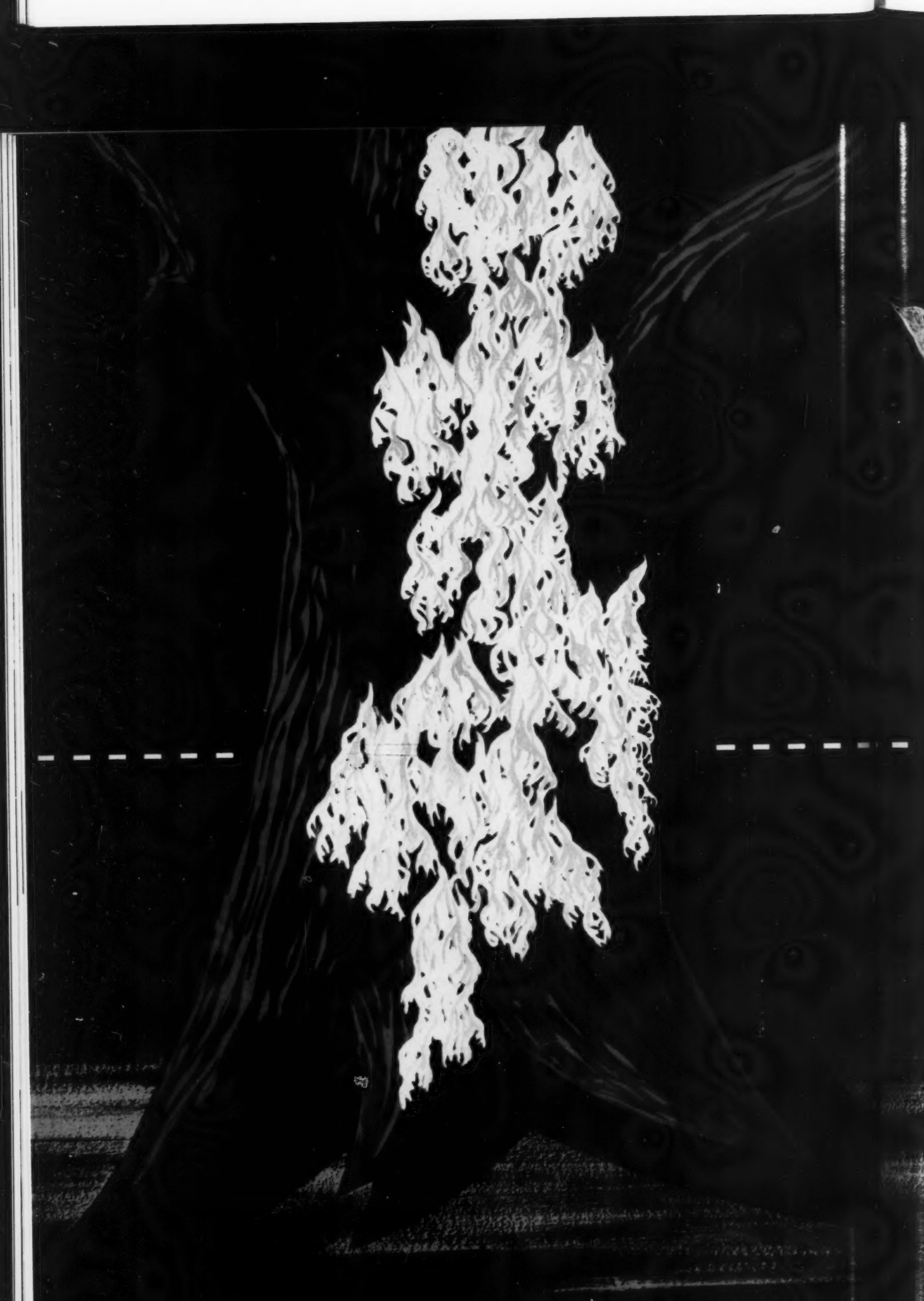

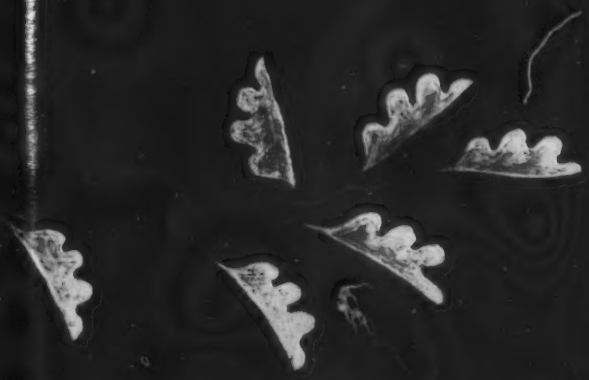

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# Certified Lists Are Harmful

**By Earl Brenn*,**

Huntington Laboratories, Inc.,
Huntington, Ind.

PRODUCT certification is the process whereby an organization which claims to represent the interests of consumers cooperates with a testing laboratory in approving products. The manufacturers of these products submit them for testing to the designated laboratory, which determines if they meet certain specifications. The manufacturer pays a fee for the testing, and if his product is approved, it appears upon some form of Certified Products List.

I do not speak for the Chemical Specialties Manufacturers Association—neither the whole group nor any committee thereof, but rather as an officer of a company which manufactures chemical specialties, such as floor waxes, liquid soaps, and the like. This paper represents an endeavor to shed light upon product certification, because this practice is growing rapidly, and is to the detriment of both the consumer and the producer of chemical specialty products, we believe.

### *The AHA Certified List*

Our particular problem is the appearance of the certified products list sponsored by the American Hotel Association. There are other certified products lists, such as the Maple Flooring Manufacturers' Association, the Rubber Manufacturers' Association, and the Underwriters' Laboratories, Incorporated. They have been in existence for a long time and our industry has been able to adapt itself to them. This is not to imply that such lists are beneficial, and, in fact, they may be harmful. But they may be likened to an old trick knee with which one has learned to live. However, a new and more serious wound would be something much different.

What is unique about the American Hotel Association project which has forced our industry to reexamine the whole field of product certification? I believe this uniqueness to be four-fold:

The American Hotel Association project on product certification (1.) came after the other lists were promulgated; (2.) includes a much wider range of products; (3.) examines more aspects of the individual product; and (4.) is being promoted more aggressively.

*Point 1.* The A.H.A. list is the newest one, and is like that "straw that broke the camel's back." It adds much of a load to the previous weight.

*Point 2.* The older lists covered very few products. The Maple Flooring Manufacturers' Association is interested only in oleo-resinous sealers for wood flooring. The Rubber Manufacturers' Association is interested only in polish and cleaner for rubber floors. By contrast, the A.H.A. has developed a testing program for 19 different classes of chemical specialties.

Earl Brenn

*Point 3.* The Underwriters' Laboratories, Incorporated, has various testing programs based upon one simple property of a product. Thus they test only the slip factor of floor polishes. Or they test for the flash point or for spontaneous combustion. By contrast the A.H.A. program purports to test the general suitability of the product. The A.H.A. is satisfied with nothing less than evaluating how the product performs. The laboratory engaged by the A.H.A. evaluates the performance of the product and has set a minimum standard of performance which the product must meet. This is a matter quite different from running a simple flash point or slip test determination. It means that the A.H.A. Workbook on Test Methods must extend to 70 pages.

*Point 4.* Older listing agencies have been quite content to permit the manufacturer to decide if he wanted to be listed, and little, if anything, was done to interfere with his decision.

The A.H.A., by contrast, seems to have given its list the "hard sell." Its list is distributed by 12 other organizations who represent institutional consumers and who have circulated 23,000 copies of the A.H.A. Certified Products List. This is remarkable when it is considered that these 12 organizations have endorsed the A.H.A. program by their actions and yet have little or no idea of what they are endorsing. They

*Paper presented at 47th annual meeting, Chemical Specialties Manufacturers Association, Hollywood, Fla., Dec. 6, 1960.

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support the A.H.A. program, but have not and cannot analyze what they are supporting. Most or all of these 12 organizations do not have laboratories available. I will hazard a guess that the reason they adopted the A.H.A. list is simply the "me, too" philosophy which acts on the basis of "if someone else joins, then I will join."

### Excessive Potential Cost

The A.H.A. program is new and has gained little headway. For example, the A.H.A. 1960 Certified Products List includes only 33 floor cleaners and polishes. By contrast, the Rubber and Vinyl Flooring Council in its May 1, 1959, list contains 669 certified floor cleaners and polishes. At A.H.A. rates, testing cost of these 669 floor cleaners and polishes would have been $71,095, minus the alternative tradenames that a single product might have.

In addition to floor cleaners and polishes the A.H.A. program embraces 17 other classes of chemical specialties. These include products such as dishwashing compounds, mop treatments, glass cleaners, bowl cleaners, and the like. These could add greatly to the above testing cost. If a manufacturer were to have tested only one product in each of the A.H.A. categories, his testing bill would be $1,300. Individual manufacturers do produce all these products, and it is customary to offer them in several variations. I would say that the cost figure begins at $100,000 or more.

### General Approach

Now, let us depart from the American Hotel Association project and consider the question of product certification in a more fundamental and a broader manner.

Fundamental error on the part of both producers and consumers is to take the position that product certification of any and every product by any and all groups is either all bad or all good. This is very wrong. It would facilitate discussion and lessen fruitless argument if we would all agree that product certification can range from 100 per cent bad to 100 per cent good, depending upon the particular item which is being certified, be it gas ranges, kosher meat or bed sheets. Analogy is a false guide. If one were to assume that the Underwriters' Laboratories program is good, that does not mean that the American Hotel Association program is necessarily good. Or if one comes to a decision about the Maple Floor certification program or Federal meat inspection, that does not relate to the Good Housekeeping Seal of Approval or to the Inn Keepers' Guild of Nova Scotia.

If a certification program could be made practical for one chemical specialty, that does not mean that such a program would be practical for all other chemical specialties. Let us conclude that the certification of chemical specialties should be discussed solely on the basis of the chemical specialties industry, and not by analogy from other industries.

We should distinguish between simple chemical products and the more complex chemical specialties. I have chosen the term, "chemical staples," to refer to chemical products such as caustic potash and hydrochloric acid. The staple products are usually raw materials. Being simple and uniform, it may be possible to write useful specifications for them, but in any event they are not under discussion here.

### Chemical Specialties

Chemical specialties include endless combinations of innumerable basic chemicals, presented in many different forms, and used in all sorts of ways, to perform a variety of tasks in institutions, homes, factories, etc.

We are particularly interested in products made by members of CSMA's Waxes and Floor Finishes Division, namely floor waxes, floor polishes, and floor cleaners. However, these remarks apply equally to any complex chemical specialty.

Product certification of most chemical specialties by the present certifying agencies results in more harm than good for both buyer and seller. This is our thesis which we shall support by citing some of the disadvantages of product certification of chemical specialties

### Disadvantages of Lists

1. Certification programs increase the cost to the consumer. The new A.H.A. certification program already represents a fee to the testing laboratory of $18,860 minus alternative tradenames applying to a single product.

The Rubber and Vinyl Flooring Council certification program in 1959 had a total testing laboratory fee of $25,087. This list is renewed every two years.

The Maple Flooring Manufacturers' Association testing fees for 1958 products cost $10,425. This list is published every third year.

I have not developed cost figures for the Underwriters' Laboratories, Incorporated, testing program, but believe them to be far more substantial than the above. York Research Corp. has undertaken another large scale and costly certification program. Instead of asking whether these programs are good or bad, let us ask the question "How much can the consumer afford to pay for various and sundry seals of approval?"

2. Certified products lists mislead the buyer into feeling that he is purchasing a higher quality product. In reality, the certification usually refers to minimum performance or, more often, product certification simply means freedom from certain harmful effects. Incidentally, laws have been enacted to prevent harm, and to avoid danger as well as fraud, so the buyer is legally protected without such lists.

3. Certified products lists

(*Turn to Page* 97)

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result in lower quality products because:

a. The advantage goes to the poorest product which barely meets the specs and can sell at a lower price.
b. In actual practice the specifications are soon outmoded. Rigid specifications in the rapidly changing chemical industry serve as a bar to new and better products.
c. The lists do not allow for the wide variation in the quality of listed products.

4. Specifications issued by different agencies vary and produce a confusing situation.

5. Certified products lists breed more certified products lists. There are always additional associations who eye these lists and contemplate adopting such programs in a misguided attempt to serve their membership. The question is: "Where does the multiplication of approval programs stop?"

6. Certified products lists do not make it easier or quicker for the buyer to choose a product that suits him. He usually wants a superior product to fit his own unique needs. How can the purchaser save time in reaching a decision when confronted with the 246 cleaners or the 423 polishes now appearing on the Rubber and Vinyl Flooring Council List? Must the buyer test these 669 products or just choose any one of them at random?

7. The individual certified products list shows a tendency to increase its scope. For example, the Rubber Manufacturers Association had been quite content to test cleaners and polishes for rubber and vinyl flooring. But on May 1, 1961, their new list will include, for the first time, disinfectants and sanitizers. The question is, "What new product will be added to their their 1963 list?"

The A.H.A. list has moved much faster. On March 1, 1959, it included 16 categories of products. Then exterior paints were added. Now we learn that the 1961 list will also include wax strippers and mop treating compounds. Paper napkins, paper towels and toilet tissues have been thrown in for good measure. What new products will be added to the above 22 classes for the 1963 list?

8. Certified Products Lists are unnecessary because the manufacturer is responsible for his product and cannot exist by selling harmful or inferior products.

(*To be continued*)

## CSMA Meeting

(*From Page* 76)

Hydrophilic Polymers," covered the use of synthetic or natural polymers to provide emulsion stability at low polymer concentrations. The authors suggest that "yield value of the continuous water phase constitutes a simple rheological solution to the problem of stability by providing for permanent suspension of the oil spheres independent of all other destabilizing factors."

The harmful effect of product certification of chemical specialties was discussed by Earl Brenn, president of Huntington (Ind.) Laboratories, Inc. Mr. Brenn's paper appears beginning on page 91.

"Concentrated Floor Polish Formulations," a paper by Klaus S. Treviranus and Robert J. Turner of Morton Chemical Co., Woodstock, Ill., appears in full beginning on page 81.

The final paper of the session dealt with "Particle Size Technology of Polymer Emulsions — Part I, Measurement of Particle Size." This was a contribution of John G. Brodnyan and Richard E. Zdanowski of Rohm and Haas Co., Philadelphia.

### *Aerosol Division*

A panel discussion of quality control in the aerosol filler's plant was the opening feature of the two-part program of the Aerosol Division meeting, Dec. 7. The first panelist, Norbert H. Brusky of S. C. Johnson & Son, Inc., Racine, Wis., spoke on "An Aerosol Quality Controller Looks at Valves." Mr. Brusky's paper begins on page 139.

Russell P. McGhie of Colgate-Palmolive Co., New York, in discussing "Quality Control of Aerosol Containers," pointed out that "any good quality control program should begin with meetings between the supplier and customer, to set up the limits of acceptance that will be agreeable to both parties." However, he explained, "the filler sometimes has to agree to limits of acceptance that are lower than he desires but are all that the supplier can supply economically."

Speaking mainly of metal containers, Mr. McGhie said that "plus and minus tolerances should be set up" for dimensions and capacity and a method of measurement agreed upon. This is necessary, however, only on such critical dimensions as capacity, overall height, outside diameter and opening size. "Capacity," according to Mr. McGhie, "is usually checked by overflow measurement . . . "

Testing of strength and durability are usually beyond the scope of the filler and are only found on the production line. One method of checking is to make a good statistical sample of an incoming shipment and actually run it on the filling line. Checking of can linings for coverage and proper application is complicated, but production sampling of filled cans and aging tests on these samples will give some idea of quality.

Decoration can be checked visually against standards of color and overall quality of decoration, Mr. McGhie stated. He added that "color standards should be set up, illustrating the standard or desired color with the acceptable light and dark limits." Decoration defects can be classified according to severity and effect on appearance or legibility. Defects, within limits, are acceptable, providing they do not harm overall appearance or

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the design or make copy illegible. Actual samples may be used to illustrate the maximum of each defect that is acceptable. Besides agreement with the supplier on the maximum defect, agreement has to be reached on a limit of the number of acceptable defects in one shipment.

"At least four quality checks should be considered when testing incoming propellant deliveries," Donald E. Dean of Shulton, Inc., Clifton, N. J., reported in his paper, "Propellants and Propellant Systems." These cover: identification and/or composition; presence of free chloride; moisture content, and presence of non-condensible gases. Of these, Mr. Dean stated, "the most important test is for identification and/or composition. A measure of the total pressure at 70°F. offers a rapid means of identifying propellants either by themselves or in two component propellant systems. A range of plus or minus one pound from the value listed for a given mixture is a suitable specification.

As to production control testing, Mr. Dean pointed out that the choice of control methods may depend upon the manner in which the product is filled. In cold filling, the propellant fill weight and propellant composition should be considered. Propellant fill weights may be found by running marked and tared containers through the propellant filling section of the line. Containers are weighed following valve crimping to determine propellant fill.

Vapor phase chromatography offers "the best method for specific and accurate checks on propellant composition," he said.

In pressure filling, when the propellant, particularly a high boiling point one such as 11, is blended with the concentrate in a mixing tank, the vacuum distillation method may be used to determine the amount of propellant added. Also loss on drying method will give the volatile-non-volatile component ratio. A rapid loss on drying method is to weigh the sample into a tared aluminum dish containing a bed of sand. The amount of residue is determined after flashing off the volatiles over steam.

An outline of the basic tests and equipment to be used in quality control on concentrates in aerosol products was presented by S. Jack Campbell of Continental Filling Co., Danville, Ill. Mr. Campbell's paper covered "Quality Control for Aerosol Concentrates, Line Filling, Weighing, Water Bath and Spray Testing." "To enable a filling company to initiate a quality control system on raw materials and concentrates, it is essential that quality control laboratory be prepared with equipment, procedures and technique to perform those tests that are appropriate for the material being tested," Mr. Campbell observed. Some of the more basic tests described by Mr. Campbell covered: specific gravity, refractive index, distillation range, odor evaluation, clarity evaluation, moisture determination, solids content, flash point, colorimetric determinations, pH determinations, aniline point, acid number, saponification number, chlorine content, viscosity and chromatography.

A description of "Laboratory Quality Control Procedures Via Infrared Spectrophotometry" was discussed in a paper of that title by Daniel H. Terry and J. A. Versocki of Boyle-Midway Division of American Home Products Corp., Cranford, N. J. The use of the infrared Spectrophotometer has proved a "great time saver and a very valuable method of running quality control and analyzing insecticidal products," Mr. Terry reported. "Chemical analysis of multi- component insecticidal formulation is both time-consuming and in some cases practically impossible to analyze accurately by normal methods," he stated.

"Special Quality Controls Required for Pharmaceuticals" were covered in a paper of that title by John C. Armstrong of Armstrong Laboratories, Inc., West Roxbury, Mass. Where recorded certification of propellant in single tons and tank load quantities is required by the pharmaceutical manufacturer and the Food and Drug Administration, simple vapor pressure checks at two temperatures may be performed, preferably by both the propellant supplier and the aerosol filler. "Further double checks should be made at point of filling, as assurance against contamination or changes in propellant ratios," Mr. Armstrong said.

Assays of finished concentrate, which may take as much as 2½ hours to perform, are often required. These assays sometimes must be run four times a day. Assay samples are taken directly from filling line periodically.

Sampling of such components as containers, valves, actuators, overcaps, etc. is frequently required. Valves for pharmaceutical aerosols are of particular concern. Metered valves for inhalation therapy, where dosage is important, must provide metering efficiency and dosage delivery in milligrams of the product being dispensed. Classifications of rejects cover: no fire, weak spray, and no cut-off. To determine these attributes without actually loading and assembling the filler must determine in advance of running the physical specifications such as dimensions, gasket material, durometer, etc. Spray test, leak test and dosage can only be determined from previous runs.

Statistical quality control methods are also employed in controlling and recording filling accuracy in concentrate and propellant. The normal procedure on weight control is to introduce periodically four tared containers concurrently into the line. They are removed, weighed and recorded individually on a plus or minus increment method, plotting the average and the range on the production weight chart. A copy of this chart may be incorporated in the final report

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after the run is over. In pharmaceutical filling it is universal to adjust the lower control limit to the stated weight or the ingredient statement on the label.

Another control used by Armstrong is the examination of the previous day's run. This involves sampling the previous day's production and applying all practical quality control checks that are possible at this time, including overall weight, pressure test, leak test, spray test and dosage check.

A "Quality Control Program for Food Aerosols," a paper by Clarence Clapp, Western Filling Corp., Los Angeles, was read by Fred Presant of Aerosol Techniques, Inc., Bridgeport, Conn. In general, the author pointed out "fit quality control to the product and process, set the specifications in advance and do not compromise the program under any conditions. Specifications, which are a "must" for a food aerosol quality control program, should be set up in advance during the course of product development and improved continually as experience dictates. Such specifications should cover receiving inspection, product preparation, filling and process control and finished product evaluation.

Although he was scheduled to speak on the subject of "The Kind of Quality Control a Marketing Man Expects from His Aerosol Filler or Contract Loader," Thomas S. Harrison of Lehn & Fink Products Corp., New York, dwelt mostly on the marketing relationship between the marketer and his filler. He declared that most manufacturers of consumer products feel that the more products they manufacture themselves, the more economical their operation is. Although he predicted that the "battle of costs will continue," he professed to see the day when equipment will be "cheap enough for the smaller manufacturer to do his own filling." As to the problem of quality control in the filler's plant, Mr. Harrison questioned whether "sterile statistical information is the answer to quality control." Rather, he said, "loaders should become acquainted with the production and marketing men" in the firms for which they are filling. The aerosol loader should seek out the marketing people in the manufacturing company and find out more about their philosophy of marketing. The filler should pass along his findings to the people in his (the loader's) own firm. Further, Mr. Harrison declared, "the filler should put himself in the position of the marketer to evaluate the quality of the product" he is loading. In addition, Mr. Harrison said, the filler must familiarize himself with all details of the production, marketing and quality of the product he is filling. He should also be familiar with the performance of the product, and also be familiar with competitive products. Simple overall testing of product quality should be a definite responsibility of the contract filler, he added.

The need for statistical quality control in aerosol filling was stressed in the final paper of the panel, "Application of Statistical Quality Control to Aerosol Filling," by Edwin K. Kitow of G. Barr & Co., Chicago. Statistical quality control will determine the quality of a large shipment of aerosols, according to Mr. Kitow. It is "obviously impossible to sample adequately high speed mass output" of aerosols, he stated. The application of statistical quality control in aerosol filling is based on range, he pointed out.

Ways of "Financing Growth Industry" were outlined by Elliott Averett, vice-president of the Bank of New York.

The final speaker of the session, John A. Willis of Union Carbide Corp., New York, discussed "Guideposts for Evaluating Profit Performance."

### Automotive Division

R. W. Kallgren of Dow Chemical Co. presented the first paper at the automotive division's meeting, Dec. 7. Speaking on the "Advantages of Using a Year 'Round Coolant" he traced the requirements for a modern coolant and told how Dow developed its year round product, a glycol and water formulation with inhibitor. He described the screening tests and tools used in this work and the criteria governing these tests. Mr. Kallgren called on the automobile industry to design cooling systems with improved drainage and concluded that "There is no substitute for proper service together with the best coolant possible."

The fact that automotive specialties must take account of the emergence of the aluminum engine at present and the magnesium engine in the future was spotlighted by Mr. Kallgren and by Wardley D. McMaster, research laboratories of General Motors Corp., Warren, Mich., who was the next speaker. In a paper on "Chemical Specialties and the Modern Automobile" Mr. McMaster expressed the belief that "there is ample room for retaining a reasonable polish business in relation to the new finishes." But polish formulations must keep pace with modern requirements. New windshield washer formulations are needed and a treated dust cloth would find a ready market while upholstery cleaners must take account of a safety conscious public, Mr. McMaster indicated. " . . . major activity may be expected in the field of coolants and corrosion inhibiting media of all kinds," according to this speaker.

"A New Chemical Lubricant" was presented by W. A. Hall, Marshall Laboratory (Philadelphia) of E. I. du Pont de Nemours & Co., Wilmington, Del. The new product is a pressure packaged telomer of tetrafluoroethylene, described as a dry, non-oily, non-staining white solid of waxy character. Pressurized with a blend of "Freon" 11 and 12, the aerosol is being marketed for automotive and home use under the

(*Turn to Page* 196)

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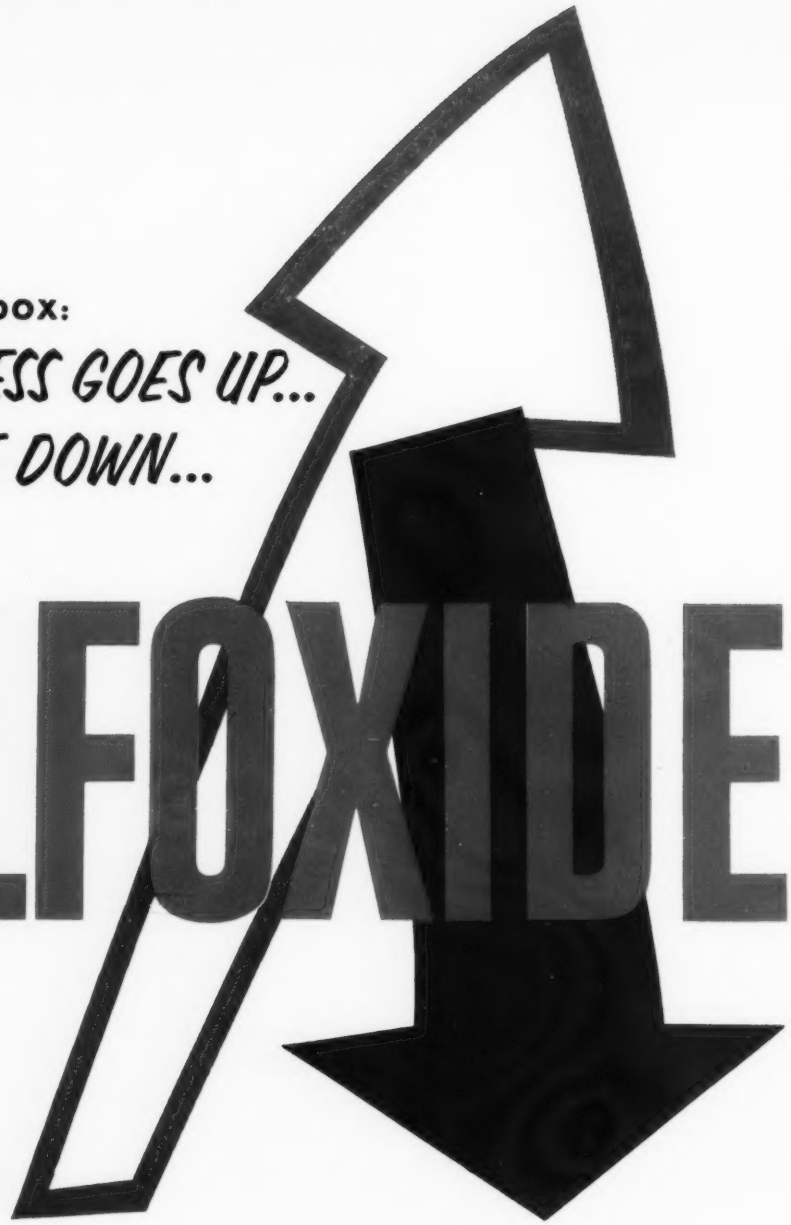

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# TGA Hears of Negro Shampoos

NOVEL instrumentation and methods for the analysis of toiletries ingredients, a fresh new approach to the formulation of shampoos for the negro, and the potential role of the H.L.B. system in solubilization or essential oils were among the topics discussed at the 28th semi-annual meeting of the Scientific Section of the Toilet Goods Association. The group convened November 30 at the Waldorf-Astoria Hotel, New York, to hear an all day program consisting of seven presentations.

"The Change in Ultraviolet Absorption Spectra with pH – Its Use in the Analysis of Toiletries," by D. E. Dean, R. Suffis and A. Levy, Shulton, Inc., Clifton, N. J., deals with the determination of phenolic germicides and aromatic amines. This paper will appear in a future issue of *Soap*.

G. Robert Clark, director, Division of Cosmetics, Food and Drug Administration, U. S. Department of Health, Education, and Welfare, Washington, D. C., presented "Some Analytical Applications of X-Ray Fluorescence Spectrometry." Apparatus used for this technique was described and its application to determination of elements above helium outlined. The paper gives a detailed description of the method's application to the detection and measurement of bromine and iodine in halogenated fluorescein dyestuffs. Determination of lead in various dyestuffs is described.

The speaker pointed out that the X-ray fluorescence spectrograph lends itself particularly to the analysis of large numbers of similar samples. He reported that his department produces such analyses at the rate of one every 15 minutes of each working day.

Mixtures of surface active agents produce better solubilization of essential oils than a single solubilizing agent, according to a paper by S. J. Strianse and Monroe Lanzet of Yardley International Research Laboratories, Union City, N. J. Entitled "Application of the H.L.B. System to the Solubilization of Essential Oils" the presentation reported optimum results in the solubilization of oil of lavender and oil of lime with a combination of an anionic (sulfated ethoxylated alkyl phenol) with a nonionic (ethoxylated alkyl phenol). This paper will appear in full in a future issue of *Soap and Chemical Specialties*.

"Some New Pathways in the Formulation of Cosmetics for the Negro," by Franklin H. Cooper and Edward Sagarin of Lena Horne Beauty Products, Inc., pointed out that the differences between individual members of the negro race are far greater than between individual members of the white race. Awareness of these intra-racial differences is one of the keys to improved cosmetics for Negroes.

Speaking of hair preparations in general and shampoos and hair conditioners in particular the authors made the following observations:

"We have found evidence that the structure of the hair in large segments of the Negro population demands a new approach to hair products far beyond the field of hair straighteners, pressing oils, and pomades. Such products as shampoos and hair conditioners, for example, can be quite effective for most white users and rather ineffective for Negroes, unless formulated specifically for their use. As an instance, a detergent-type shampoo that was found satisfactory for cleaning the scalp and hair of white users, was found to be somewhat irritating by certain Negro users. Investigation showed that most of the Negroes complaining had employed metal combs and other devices which had caused abrasions of the scalp. Addition in more than the usual proportions of an emollient or counterirritant, such as lanolin or derivatives, and careful screening of detergents to locate ingredients most tolerable by this type of scalp surface, result in the formulation of a shampoo that overcomes this difficulty.

"Moreover, it has frequently been observed that the hair of the Negro has a greater tendency to be oily than has the hair of the white population. Some observers have suggested that this may be due to the greater use of pomades and pressing oils, as well as other hair preparations. However, one must not exclude the possibility of a greater amount of natural oils, or a further possibility that the tight wavy and curly structure retards the loss of these oils. While the question of the degree to which a shampoo should be an efficient degreaser has been a matter of controversy, with Harry (2) pointing out that virtually complete degreasing is undesirable, it is our finding that shampoos with satisfactory ability for the removal of excess oils from the hair of most white people are not sufficiently efficient in this same respect for most Negroes.

"However, the intra-ethnic differences which we have mentioned previously, and which will become extremely crucial in the discussion of makeup, cannot be overlooked on hair structure and shampoo. For a complete cosmetic line for Negroes, it is desirable to include soap-type shampoos, for otherwise a satisfactory product for oily hair would leave normal or dry hair degreased and unmanageable.

"Although the Negro consti-

(*Turn to Page* 197)

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# Iodine Disinfectants

**By John L. Wilson, William G. Mizuno, and Carl S. Bloomberg*,**

Economics Laboratory, Inc.
Saint Paul, Minn.

**Part II**

BIOCIDAL iodine solutions based on iodophors have far more desirable properties than other iodine preparations and also some advantages over phenolics, quaternary ammonium compounds and chlorine preparations. (Table XI)

Iodophors are a comparatively new type of product. There are records of their use for dairy and food-utensil sanitation in 1951 and 1952. (6b, 6c, 6d) Their acceptance has come rather slowly. Published reports on dairy application of iodophors are still few in number, even though in some areas at least, iodophors are in regular daily use on the farms and in the dairy plants and are giving excellent results.

**Table XI. Advantages of Iodophors over Other Iodine Preparations**

1. Retain most of biocidal activity of free iodine
2. Increase solubility — can make concentrates
3. Unlimited dilution possible without precipitation
4. Greatly lower vapor pressure
5. Slow down dissipation of iodine by organic matter
6. Enhance germicidal action
7. Eliminate staining problems
8. Reduce toxicity
9. Eliminate skin irritation
10. Reduce corrosion
11. Buffer at favorable pH (3 to 5)
12. Improve wetting and penetrating properties
13. Dissolve and prevent lime films
14. Possesses detergent properties

### *Use Properties*

Traditionally, chlorine and chlorine compounds have been universally recommended and used for bactericidal and sanitizing solutions both in food-processing plants and on dairy farms. Recommended concentrations for different uses have varied according to practice and local regulations. However, concentrations of 50, 100, and 200 ppm of available chlorine have been quite general. Iodophors, to be successful, must provide at least as effective biocidal action as chlorine, and preferably some additional benefits.

Several investigators have reported that in sanitizing applications, such as encountered in the dairy and food industries, properly buffered iodophor solutions which provide 12.5, 25, and 50 ppm of available iodine are at least as effective as the 50, 100, and 200 ppm of available chlorine—some claim 25 ppm of available iodine is better than 200 ppm of available chlorine. (4h-p. 77, 4i-p. 147, 4l-Part II-p. 167, 4m-p. 225, 4n-p. 223) Some authors report that under many conditions iodophors at these concentrations may be superior to chlorine because of their greater ability to maintain germicidal action in the presence of food soil and other organic matter. (4h, 4n, 4q) As an additional advantage they prevent the formation of milkstone films and other films on utensils and equipment (4h, 6c, 6d) and are less corrosive. (4h, 6c)

Water hardness has little effect on results obtained with iodophors, whereas it greatly influences results obtained with hypochlorites and quaternary ammonium compounds. Furthermore, iodophors do not present the problems of misuse as milk preservatives which quaternary ammonium compounds do. (6g) If iodophors are added to milk in concentrations high enough to act as preservatives, they affect the taste of milk. However, amounts of up to at least 10 ppm of iodine in milk (far more than are likely to be present by accident) impart no off-flavor to milk either before or after pasteurization. (4h, 6g)

Effect of organic matter on the bactericidal action of iodine, chlorine and other agents has been studied experimentally by a number of investigators (4h, 4n, 4q, 4s, 4v, 5g.) Johns performed a number of tests of interest for dairy applications (4h).

He used a modified Weber and Black method (5k) and also a "capacity" test (5g), taking as the end point a 99.9999% and 99.99% kill, respectively, in 30 seconds. He ran tests at 5°, 20°, and 45°C., using test organisms *Micrococcus pyogenes*, V. *aureus*, BDF-490; *Escherichia coli*, BDR117; and *Pseudomonas aeruginosa*, BDR499 and spores of B. *subtilis* and spores of B. *larvae*. Johns worked in distilled water with and without 0.5% skim milk. He reports results for two iodophor preparations and several other commercial products used in distilled water at concentrations to give 100 ppm of active agent. The following pH values were obtained: Liquid hypochlorite—pH 8.7; a chlorinated TSP—pH 11.2; a 1,3-dichloro, 5,5-dimethyl hydantoin—pH 5.0; an alkyl dimethyl benzyl ammonium chloride—pH 5.0; alkylated ($C_9$-$C_{13}$) tolyl methyl trimethyl ammonium chloride—pH 5.5; and sodium hypochlorite plus sodium metasilicate, TSP, etc.—pH 11.4. Results

*Paper presented at third annual meeting, Canadian Manufacturers of Chemical Specialties Association, Montreal, Can., Oct. 26, 1960.

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THINKS AHEAD WITH CHEMICALS

( *From Page* 105)

of the modified Weber and Black test appear in Tables XIV, XV, and XVI.

Results obtained in the capacity tests are shown in Table XVII.

The products used in tests reported in Tables XIV, XV, XVI, and XVII are as follows:

| | |
|---|---|
| Iodophor #1 | – "Iosan" |
| Iodophor #2 | – "Iobac" |
| Iodophor #3 | – "Biopal CVL-10" |
| Hypochlorite | – "Dalglish" |
| Organic Chlorine | – "Antibac" (Wyandotte) |
| Quat #1 | – "Roccal" (Sterwin) |
| Quat #2 | – "Hyamine 2389" (Rohm & Haas) |
| Built Hypochlorite | – "Diokem" |
| Chlorinated TSP | – "Diversol" |

The two iodophors are effective at lower concentrations and retain their effectiveness better than do the other products tested. John's practical tests with Iodophor #1 at 25 ppm available iodine showed actual removal of milkstone from inflation tubes and satisfactory sanitizing results with as little as 7.5 ppm available iodine (Iodophor #2). Strength of iodophor solution is indicated by the color, a pale tinge of yellow remaining at 5 ppm.

Suitably formulated iodophors are useful not only as germicides for final sanitization of equipment before use, but also for cleaning purposes – that is, they can serve as detergent-sanitizers.

Thorough physical cleaning is a prerequisite for safe sanitization of food processing equipment. In addition, sound practice calls for application of a sanitizing rinse to all equipment in direct contact with food, immediately prior to use. Both the cleaning and the sanitizing steps are being successfully performed by iodophors. Although effective in sanitizing rinses regardless of the type of cleaner used in the preceding operation, the iodophor can be used for both steps.

TABLE XIV

Effect of Temperature and Skim Milk on Germicidal Efficiency Against M. pyogenes V. aureus

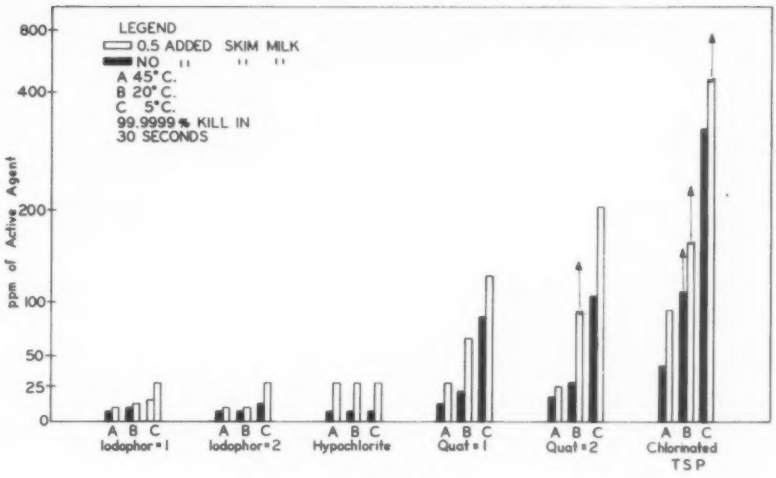


TABLE XV

Effect of Temperature and Skim Milk on Germicidal Efficiency Against E. coli

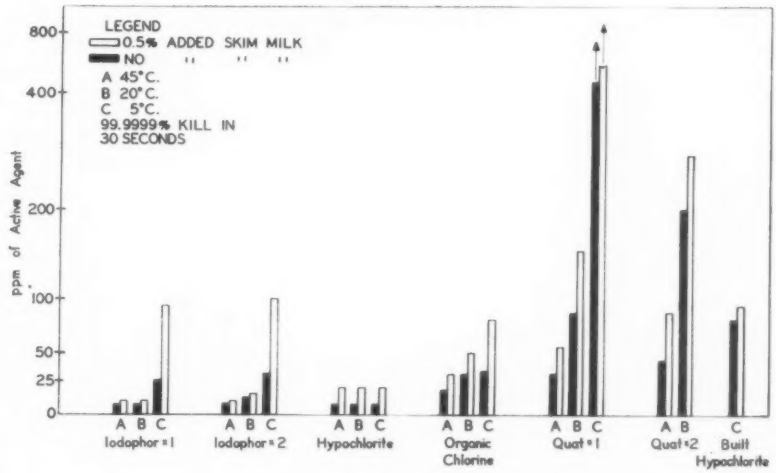


TABLE XVI

Effect of Temperature and Skim Milk on Germicidal Efficiency Against P. aeruginosa

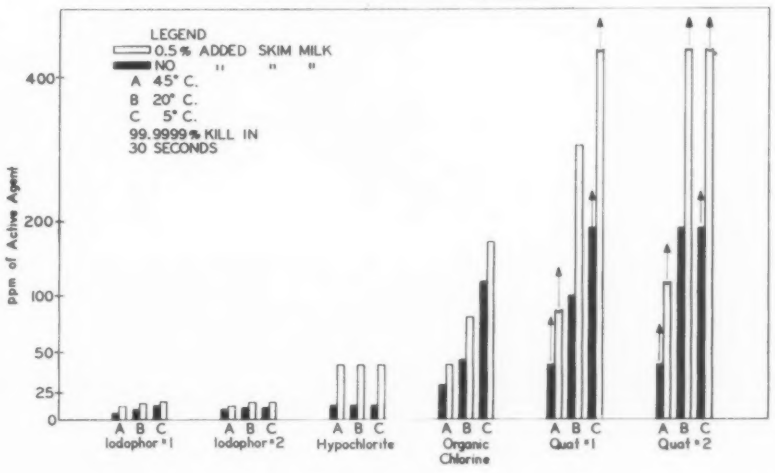

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**Table XVII. Capacity Test Results**

Solution at 20°C.; increments of bacterial suspension in 50% skim milk added at 5-min. intervals: figures represent number of increments destroyed (99.99% kill in 30 seconds as end point)

| Product | Conc. (ppm) | Test Organism M. pyogenes v. aureus | E. coli | P. aeruginosa |
|---|---|---|---|---|
| Iodophor #1 | 28 | 8 | 8 | 9 |
| Iodophor #2 | 28 | 6 | 8 | 10 |
| Iodophor #3 + phosphoric acid | 28 | 7 | – | – |
| Iodophor #3 + hydroxyacetic acid | 27 | 6 | – | – |
| Hypochlorite | 200 | 3 | 4 | 3 |
| Organic Chlorine | 200 | – | 9 | 7 |
| Quat #1 | 200 | – | 5 | 3 |
| Quat #2 | 200 | – | 3 | – |
| Built Hypochlorite | 200 | – | 14* | 12* |
| Chlorinated TSP | 200 | – | 5 | – |

*Maximum number of increments tested. (Built hypochlorite results may be due to very high pH. JLW)

The following advantages will be gained by this practice: Cleaning efficiency unimpaired by water hardness; no build-up of milkstone and hard water deposits; improved wetting action; easier rinsing and draining; reduced microbiological count.

Iodophors can be formulated to emphasize either the cleaning or the sanitizing rinsing properties. However, most of those now on the market are designed for both applications. For detergent uses, higher concentrations are needed (usually double or more) than for final rinse purposes. Some iodophors are designed to be used at concentrations which give 25 ppm of available iodine for cleaning and at 12.5 ppm levels for rinsing.

The use of iodophors permits effective one-step cleaning and sanitizing of certain surfaces such as the outside of food processing equipment, work tables and floor areas. This procedure saves labor and reduces shut down time to a minimum, an important consideration in such high speed operations as poultry processing. One step cleaning and sanitizing is a comparatively new and still limited use of iodophors which may be expected to grow as it becomes better known.

Fogging of the interior of large equipment such as vats, tanks, trunks etc. and of certain indoor areas can be accomplished with iodophors. They may be used for spray flushing interior and exterior equipment surfaces, for sanitizing walls and floors. Some of these products are applied by the "circulation-in-place" method to clean and sanitize certain surfaces. For these applications where iodophor solutions are subject to strong agitation, pumping, circulation, fogging, etc., these compounds must be formulated so as to produce a minimum of foam while retaining other desirable properties.

Iodophors are also being successfully used in place of chlorine in the final rinse of bottle washing machines, (both in dairies and in carbonated beverage plants). In this field iodophors offer the following advantages over hypochlorites: Being acid, they keep the rinse spray nozzles from liming up—thus insuring that the sanitizing rinse really reaches each bottle; they help keep down scale on the conveyors; give a cleaner, brighter looking bottle by preventing scale build-up and by ensuring complete draining and absence of water droplets; and they improve bacteriological results.

Successful application of iodophors in the final rinse of bottle washing machines and in fogging and flushing operations requires some simple and reliable method of introducing iodophors into the flowing water used for these purposes. This method should be simple, easy to use, and automatically self-adjusting for varying rates of flow and should provide uniform mixing of the iodophor with the water. The equipment also should be easily adjustable to give different concentrations; but once set for a given concentration, no matter what the flow rate, it should remain at this setting until purposely changed. Furthermore, the equipment should require a minimum of manual measuring and handling of the iodophor, so as to avoid contamination, spillage, waste, and misuse of the product. In addition, it should be rugged and easily serviced. Provision should be made for visual indication of the flow of supply of iodophor and of its injection into the flowing water.

Some years ago, we encountered a similar injection problem in introducing drying agents into the final rinse water of dishwashing machines. For this purpose, we developed special types of injectors, trade named "Drymaster" and "Dri-Vac."

The Drymaster utilizes a water-meter motor to drive a specially designed piston pump which meets requirements similar to those listed in the preceding paragraph. Many thousands of these have been in successful operation for several years. This equipment (the "Drymaster") appeared to us adaptable to the need for controlled addition of iodophors in low concentrations to flowing rinse lines. Such an adaption has been made and tradenamed "Mikro-Master." In this unit the water motor is adapted to cold-water use and materials of construction and capacity of the pumping part of this mechanism are somewhat different from that used for dishwashing.

Over a thousand such units ("Mikro-Masters") are now in use for the controlled application of iodophor sanitizers in plants. Some

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of these were installed in 1957.

These units were used first to introduce a low-foaming iodophor ("Mikro-Klene DF") into the final rinse of bottle washers. (Units used for this purpose are designated at "Mikro-Master BW"). The gallon glass bottle in which the iodophor is purchased serves as bulk reservoir. This avoids measuring and handling of the concentrated iodophor; minimizes dilution, contamination, and misuse; is a visual indicator of the supply of iodophor. The holder reservoir into which this bulk bottle supply automatically feeds has sufficient capacity to make possible a change of supply bottles without disturbing the injection process. (BW-type "Mikro-Masters" are now available in two sizes—BW ¾" for use on ½" and 1" water lines, and BW 2" for use in 1½" to 2½" water lines.)

Later this equipment was adapted to introducing low-foaming iodophor into water used for flushing equipment, walls and floors in dairy and food plants.

Usually, the injection unit is permanently installed on a cold-water line at a location convenient to the equipment or area to be sanitized. Units used for this purpose are designated "Mikro-Master CPS." It is practical to install upstream from the injection unit a suitable syphon, breaker, a shutoff valve, a pressure regulator (if pressures above 60 pounds are encountered—or if pressures on the water-supply line vary erratically), and a pressure gauge.

On the downstream side of the unit, at one or more convenient locations, a flexible plastic hose is attached long enough to enable one to reach the equipment or areas to be sanitized. To the outlet end of the hose a spray nozzle is attached of a type which can conveniently be adjusted during use to give a solid stream of solution or spray patterns of various desired types.

Where a sanitizing flush

(*Turn to Page* 116)

# Cosmetic Chemists Elect Dennis

WARREN Dennis of Lady Ester Co., Chicago, was chosen president elect to head the Society of Cosmetic Chemists in 1962 at the group's 16th annual meeting held in New York, Nov. 29, 1960. Sophie Plechner of Carter Products, Inc., Metuchen, N. J., will be president in 1961, first woman to hold the office. She succeeds Herman J. Amsterdam of International Flavors & Fragrances, Inc., New York, past president, who now becomes chairman of the society's executive committee for 1961.

Mr. Dennis, president elect, joined Lady Ester, a division of Chemway Corp., Wayne, N. J., as chief chemist in December 1957. He now holds the position of general manager of the firm's Chicago facilities. Prior to joining Lady Ester, Mr. Dennis was director of toiletries research at Shulton, Inc., Clifton, N. J. His previous professional experience includes three years in Australia, where he worked for the Australian Cream Tartar Co.

Lester I. Conrad of American Cholesterol Products, Inc., Edison, N. J., was re-elected treasurer and Robert A. Kramer, Evans Research and Development Corp., New York, was returned to the office of secretary of the association. Mr. Kramer has held this office since 1951. The Society has enlarged the number of directors from two to four. The new board consists of Walter Edman, Evans Research & Development Corp., New York; John Longfellow, Mennen Co., Morristown, N. J.; William H. Mueller, Toni Co., Chicago; and Martin M. Rieger, Lambert-Hudnut Research Laboratories, Morris Plains, N. J.

The 1960 medal award of the Society of Cosmetic Chemists was presented to Robert Henry Marriott of County Laboratories Ltd., England, at the society's annual dinner dance. Dr. Marriott was honored for his outstanding contribution to chemical research in the cosmetic industry. The award was presented to the 12th recipient by Mr. Amsterdam, president of the society. Maison G. de-Navarre acted as master of ceremonies and eulogist. Twice president of the Society of Cosmetic Chemists of Great Britain, Dr. Marriott was elected second president of the International Federation of Societies of Cosmetic Chemists to serve until August 1961. In this office he succeeded Sabbat J. Strianse of Yardley International. A. Herzka, Pressurized Packaging Consultants, Ltd., England, addressed the society on behalf of the British group and expressed its appreciation of the honor accorded one of its members.

The all day technical meeting under the chairmanship of E. Allen Newcomb was highlighted by a talk on "Cosmetic Advertising Under the Federal Trade Commission Act," presented by Charles A. Sweeny, Bureau of Investigation, Federal Trade Commission, Washington, D. C. In existence since 1914, the Federal Trade Commission Act was amended in 1938 to cover "Foods, Drugs, Cosmetics, and Devices." Unfair trade practices are defined in section 15 of the Act. These include false advertising other than labeling which is under the jurisdiction of the Food and Drug Administration.

False advertising, Mr. Sweeny pointed out, may consist of misrepresentations or of omissions creating an untrue picture. For the benefit of those responsible for advertising policies and advertising claims, the speaker indicated some of the "common sense rules of thumb" applied by FTC to screening of advertising copy. Advertisements are considered in their entirety, overall impression created by the advertisement being decisive, not dissection into individual phrases. It is perfectly possible, Mr. Sweeny stated, for an advertisement to be misleading in the face of its parts being true. Deception and the discrediting of competition are offenses under the Act. However, a deliberate effort to deceive or dis-

**Robert H. Marriott (right) of County Laboratories, Ltd., England, receives 1960 medal award of Society of Cosmetic Chemists from SCC president, Herman J. Amsterdam of International Flavors & Fragrances, Inc., New York.**

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**Among the officers and directors of the Society of Cosmetic Chemists (left to right) at annual meeting in New York last month: William Mueller, chairman of the Chicago chapter of SCC; Lester Conrad, treasurer; Warren Dennis, 1962 president-elect; H. J. Amsterdam, retiring president and chairman of advisory committee; Sophie Plechner, 1961 president; Martin M. Rieger, director, John M. Longfellow, chairman of the New York chapter of SCC and Robert A. Kramer, secretary.**

credit need not be proved. The Act attempts to protect the trusting. Ambiguity is therefore not permissable in advertising copy.

A set of trade practice rules have been developed by FTC in the course of administering the Act and through its trade practice programs. These rules are available to those concerned with advertising policies.

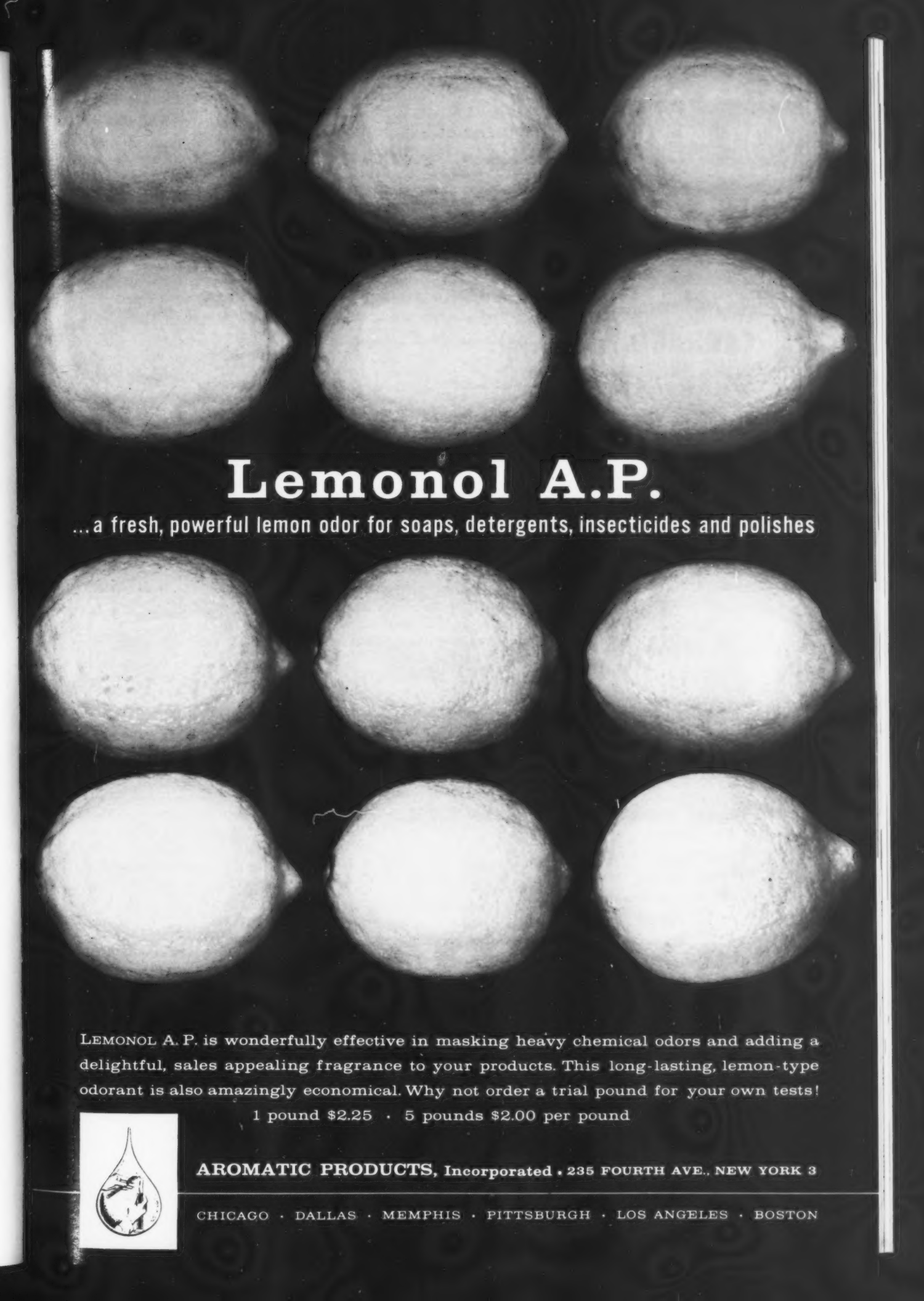
Typical cases where the Commission issues complaints against manufacturers involve false representation to the effect that product or ingredients are of foreign origin. Creation of a false impression may be achieved either directly or by implication, such as use of foreign words. Other cases cited by Mr. Sweeny involved excessive claims for skin food, and a claim that a certain product will make eye lashes grow. Speaking of guarantees in advertising, he pointed out that the nature and extent of the guarantee must be disclosed as well as the manner in which it will be made good.

Where laboratory data are used to support advertising claims the agency has laid down rules governing the type of tests and criteria for their evaluation. Mr. Sweeny stressed the interest of the cosmetic chemist in having his laboratory data interpreted correctly. The scientist is responsible for the language he uses being intelligible to the uninitiated and for wording his reports so that they do not lend themselves to misinterpretation, the speaker added.

"From Beaker to Kettle" was the subject of a symposium comprising three papers. First of these on "Sonic Emulsification," by Donald M. Skauen and Harold M. Beal, School of Pharmacy, University of Connecticut, was presented by Dr. Beal. He outlined three basic types of ultrasonic equipment: hydrodynamic, magneto-restrictive, and transducer, a principle first used for sonar submarine detection. The latter is the design commonly used for ultrasonic cleaning, whereas the hydrodynamic principle is usually applied in emulsification of cosmetics and other materials.

Dr. Beal reported on comparative emulsification studies by photographic analysis. Tests were run with a colloid mill and three different ultrasonic units. Studies indicated that oils remain unaffected by ultrasonic mixing except

(*Turn to Page* 199)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MAMARONECK, N. Y.
Owens 8-8500
*Cable address: MARGUESO*

## Metal Cleaning

(*From Page* 50)

ability to react with iron oxides to form a caustic soluble, ferric gluconate chelate (20). Caustic-gluconate soak solutions can also be used to remove chromate and phosphate films from steel surfaces. Base metal corrosion is low both on ferrous and aluminum substrates.

**Caustic-Gluconate Soak Formulation**

| | % |
|---|---|
| Sodium hydroxide | 55-90 |
| Sodium gluconate | 10-30 |
| Wetting agent (caustic-stable) | 1-3 |
| Dispersant (caustic stable) | 2-8 |
| Concentration | —8 to 48 ounces/gal. |
| Temperature | —140°F. to boiling |

The above formula can be adapted to electrolytic derusting by omitting the wetting agent.

Paint removal from ferrous metal parts is improved and speeded by the presence of sodium gluconate. A dry paint remover for use at concentrations of from one to two pounds per gallon of water at temperatures above 200°F. may be formulated as follows:

**Dry Paint Stripper**

| | % by wt. |
|---|---|
| Sodium bichromate | 2 |
| Sodium hydroxide | 85 |
| Sodium gluconate | 3 |
| Sodium lignosulfonate | 6 |
| Cresylic acid | 3 |
| "Nacconol" (National Aniline) | 1 |

In a liquid paint removal compound for ferrous metal parts caustic potash is used rather than caustic soda, because the sodium salt of cresylic acid tends to salt out at lower temperatures.

Satisfactory removal of beer-stone and aluminum oxide films without undue effect upon the aluminum base metal is reported with a mixture containing glucono-delta-lactone.

**Acid Aluminum Cleaner**

| | parts |
|---|---|
| Tripoli (abrasive) | 20 |
| Infusorial earth | 20 |
| Bentonite | 20 |
| Glucono-delta-lactone | 15 |
| Wetting agent | 2 |

Stainless steel surfaces can be effectively cleaned with the following compound:

**Stainless Steel Cleaner**

| | pounds |
|---|---|
| Sodium hydroxide | 20-25 |
| Sodium gluconate | 10-20 |
| Sodium oleate | 0.1-0.2 |
| Water | 12 gals. |

We may safely predict that the future will see a substantial growth both in materials and processes for the surface preparation of metals and alloys of every kind.

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## Iodine Disinfectants

(*From Page* 112)

rinse is applied at several widely separated areas, it has been found convenient to mount the injector, iodophor reservoir and the flexible plastic hose on a portable stand which can be moved easily from one location to another. For such uses, the upstream side of the unit is fitted with a short piece of hose on the end of which is a quick-disconnect type of fitting.

A second type of equipment (called "Dri-Vac") was developed for injecting drying agents into the final rinse of dishwashing machines. The equipment is based on a differential flow-pressure principle and is simpler and less expensive than the water meter type

(Drymaster), though not as universally applicable. An adaption of this has been made to provide similiar low cost equipment for iodophor sanitizer uses. This equipment is called "Mikrospray."

Such injectors are proving effective in dairies, food processing plants, and commerical kitchens. On farms the "Mikrospray" is used for sanitization of animals, equipment, and interiors of barns.

*(To be concluded)*

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   - l. Sanitizer-Detergents, by Louis Gershenfeld, *Soap and Chemical Specialties*, Vol. 31, Nos. 5 and 6, May-June 1955, pages 164-167, 213; 163-167.
   - m. Iodine and Sanitation, by Louis Gershenfeld, *Journal of Milk and Food Technology*, Vol. 18, No. 9, Sept. 1955, pages 220-225.
   - n. Iodine Sanitizing Solutions, by Louis Gershenfeld and Bernard Witlin, *Soap and Chemical Specialties*, Vol. 31, No. 12, Dec. 1955, pages 189, 191, 195, 197, 217, 219, 223.
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   - s. Iodophors as Disinfectants, by C. A. Lawrence, C. M. Carpenter, and A. W. C. Naylor-Foote, *Journal, American Pharmaceutical Association, Scientific Ed.*, Vol. 46, No. 8, Aug. 1957, pages 500-505.
   - v. Iodine for Quick Acting Sanitizers, by Louis Gershenfeld and Bernard Witlin, *Soap and Chemical Specialties*, Vol. 34, No. 7, July 1958, pages 67, 68, 71, 73, 75.
5. Miscellaneous references:
   - g. A "Capacity" Test for Germicidal Action, by A. Cantor and H. A. Shelanski, *Soap and Sanitary Chemicals*, Vol. 27, No. 2, Feb. 1951, pages 133-137.
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   - c. New Developments in Detergent-Sanitizers, by N. E. Lazarus, *Milk Dealer*, Vol. 42, No. 10, Oct. 1952, pages 45, 68-71.
   - d. Iodine Bactericides in the Dairy Industry, by N. E. Lazarus, *Journal of Milk and Food Technology*, Vol. 17, No. 5, May 1954, pages 144-147.
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## Soluble Films

*(From Page 48)*

dependent on such variables as water temperature, film thickness, and degree of agitation, the time required for the release of the package contents is usually quite constant. In general, from four to 10 seconds are required for release of contents from a package made up from two-mil film, and less than ten minutes is usually required to completely dissolve the film.

One potential and promising field for soluble packaging films involves use as a carrier for formulation components. Due to incompatibility, or for convenience, it may be desirable to limit the contact between the packaged material and some minor component of the formulation to the moment of solution. In such cases it may be possible to include the minor component in the packaging film itself. An application of this type, however, requires development study. Many additives will result in pronounced changes in the rheology of the resin melt or in deterioration of the mechanical properties of the film. Several applications of this type are being investigated and indications are that marketable products will result.

Use of water-soluble packaging films is a new development. We are as yet unaware of many problems which will require solution in order for this concept to be thoroughly exploited.■

MANUFACTURING CHEMISTS SINCE 1904 . . . MANUFACTURING CHEMISTS SINCE 1904 . . .

made for your special odor problems

Our long experience in the fields of:

Petroleum Products

Paints and Varnishes

Insecticides and Repellents

Household Cleaners

—enables us to "FIT OUR MASKS TO YOUR PROBLEM"

SINCE 1904 Van Dyk BELLEVILLE, N.J.

*Write Maskols—*

VAN DYK & COMPANY, INC.

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## Crown
## Meritseal caps
# TASK-DESIGNED
## for production ease and eye-appeal

**Task-Designed** Meritseal caps by Crown spin on swiftly and smoothly, speeding production. On the retail shelves their sparkling lithography commands attention, speeding sales. At home, they are easy to remove, and seal efficiently when replaced, building brand preference. May we have the opportunity to discuss or provide you with more details?

CROWN

*for closures · cans · crowns · machinery*

**CROWN CORK & SEAL CO., INC., 9300 Ashton Rd., Philadelphia 36, Pa.**

# Packaging...

## AEROSOLS · LIQUIDS · PASTES · POWDERS

Attractively packaged in cream and gold self-display boxes is new "Superbe" bath and toilet soap introduced early this month by Allan B. Wrisley Co., Chicago. Stressing fragrance, color and contour, soap is hard milled for lasting quality. Modern shape is designed for ease in handling. Soap comes in pink, blue, green or white in fragrances of "Forest Pine," "Apple Blossom," "Blue Bouquet," or "Carnation." Three cakes of bath size soap are packed to a box. "Toilette" size cakes are four to a box. Each retails for $1.50 per box.

Automotive Chemicals
Cleaners
Detergents
Deodorants
Disinfectants
Floor Products
Insecticides
Laundry Bleach
Metal Cleaners
Moth Products
Polishes
Shampoos
Shave Products
Soaps
Liquid Starch
Toiletries
and other
Chemical Specialties

*A market for over 28 billion packages annually*

*Your Anchor Man brings you SPECIALIZATION in glass packaging*

Your Anchor Man knows glass packaging. He brings you all the benefits of Anchor Hocking's half-century of specialization in glass packaging. And he is supported in depth by experienced research, engineering, quality control and service technicians.

To most completely meet your diverse needs, your Anchor Man offers you an extensive line of Anchorglass containers —in amber, crystal, emerald green, georgia green—in standard styles, sizes, finishes or private mold designs. In addition, he supplies an equally complete line of Anchor metal screw and lug style closures as well as molded caps in a variety of attractive designs and colors. And, to keep your production lines running smoothly and efficiently, you can always count on prompt, personalized service. Anchor Hocking Glass Corporation, Lancaster, Ohio.

**ANCHOR HOCKING**

*Specialists In Glass Sales-packages*

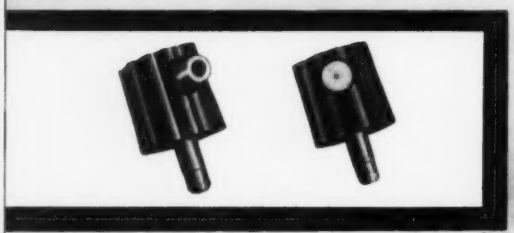
*From the History of Aerosol Paints . . .*

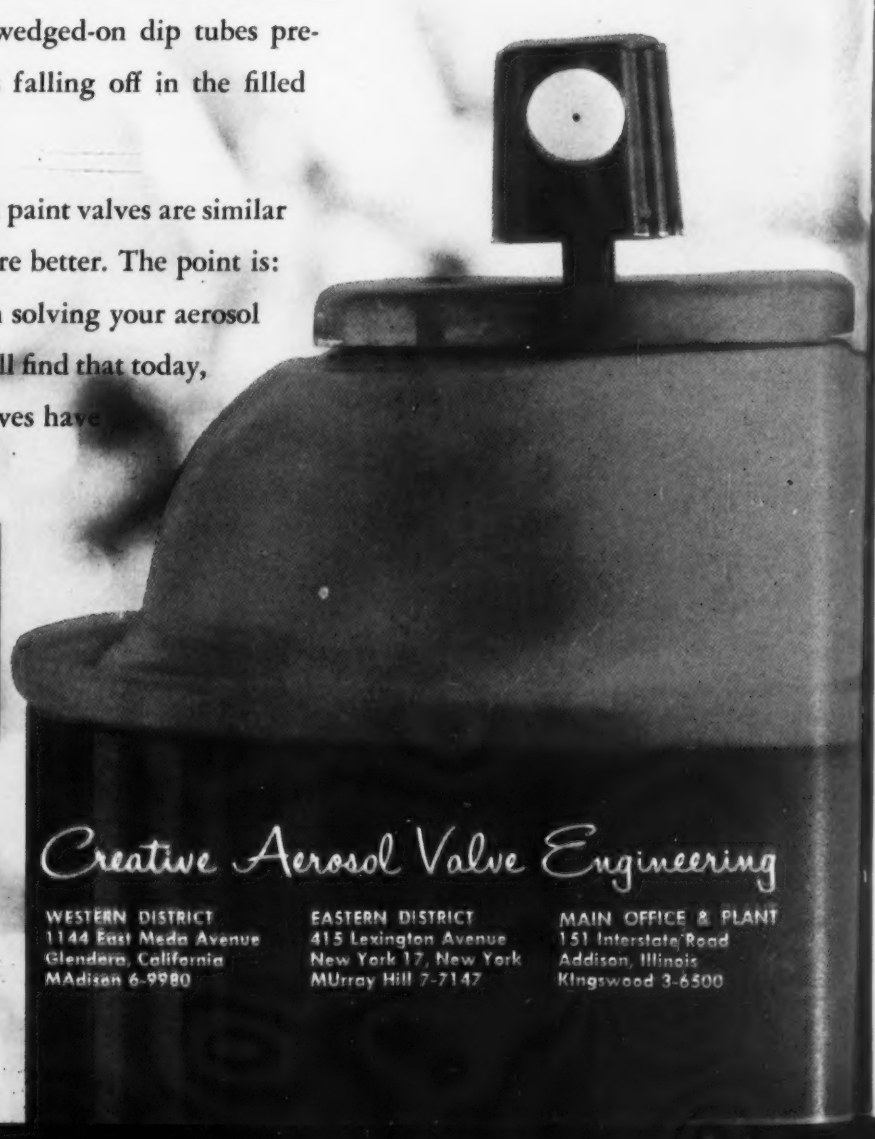
# THE FIRST AEROSOL PAINT VALVE THAT REALLY WORKED

Back in 1954, Newman-Green created the valve that caused the major breakthrough in the aerosol paint industry. This valve *really* worked. It helped paint manufacturers develop one of the country's fastest growing industries. In a matter of months, this valve was tested, approved and accepted by the largest paint manufacturers. It became "the" valve for the entire industry.

This valve's simplified design had six major effects. 1) For the first time it made high-speed pressure filling possible. 2) It greatly reduced downtime through improved quality. 3) The metering orifices in the spray head could be reached for easier cleaning, if necessary. 4) The design eliminated inaccessible orifices which had been the sources of clogging in paint aerosols. 5) It assured uniform spray patterns. 6) The swedged-on dip tubes prevented the possibility of tubes falling off in the filled container.

Today's Newman-Green aerosol paint valves are similar to this original one. Only they're better. The point is: Look to the pioneer for help in solving your aerosol paint packaging problems. You'll find that today, as in 1954, Newman-Green valves have been proven best . . . by test.





**NEWMAN-GREEN**

*Creative Aerosol Valve Engineering*

WESTERN DISTRICT
1144 East Meda Avenue
Glendora, California
MAdison 6-9980

EASTERN DISTRICT
415 Lexington Avenue
New York 17, New York
MUrray Hill 7-7147

MAIN OFFICE & PLANT
151 Interstate Road
Addison, Illinois
Kingswood 3-6500

Now in water soluble packets is "Swerl", a clothes washing detergent made by Colgate-Palmolive Co., New York. Twenty-three ounces of detergent are packed in 12 blue detergent packets.

# Film Packets for Detergents

## What's involved in development and marketing of household products in water soluble films

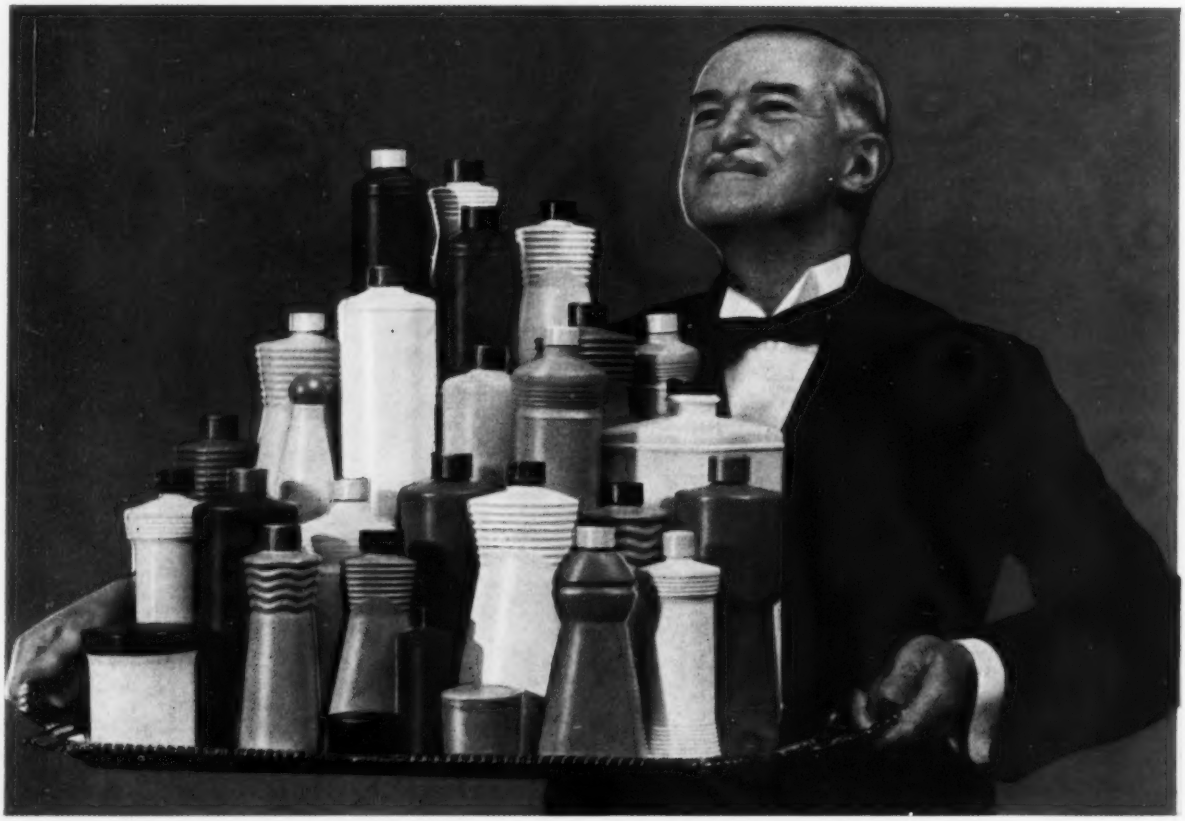
**By Richard B. Wearn*,**
Director,
Research and Development,
Household Products Division
Colgate-Palmolive Co.,
Jersey City, N. J.

THE concept of convenience packaging of household products in water soluble packets dates back at least ten years. On occasions during the early 1950's, several potential suppliers were demonstrating to my company the feasibility of casting water soluble films from cellulose derivatives and from polyvinyl alcohol. By today's standards, these films were completely unacceptable. They were brittle, had poor tensile strength, and could not be sealed by heat or wetting techniques.

In spite of our continued interest, one important supplier dropped out, reporting that film could not be made to withstand humidity extremes and that an extensive survey had indicated that the market would be too small to be of further interest. Others persevered, however, and during the period 1954 through 1958 much progress was made. The mechanics of forming and sealing packets appeared to be the most difficult problem, and it was obvious that the properties of the film had to be tailored to the requirements of the available high speed machinery to make the operation commercially feasible. Chemical modification of the standard resins was also necessary to improve the flexibility and strength properties at humidi-

*Paper presented during 47th annual meeting, Chemical Specialties Manufacturers Assn., Hollywood, Fla., Dec. 6, 1960.

Easy-to-grip containers for detergents . . . handy fitments for deodorant applicators . . . no-drip spouts for sauce bottles



# Owens-Illinois skill in plastics takes many shapes to serve you

Owens-Illinois a plastics company? More than that. We're a packaging company. Working with plastics, glass and paper, we help solve customers' packaging problems. For hundreds of Owens-Illinois customers, *plastic* packaging proves to be the best answer.

For example, today many liquid detergents are packaged in the type of lightweight semi-rigid polyethylene bottles we introduced only four years ago. This new field of packaging is growing at a tremendous rate. Long experience in both packaging and plastics has enabled Owens-Illinois to establish leadership in this field.

To discover the possibilities of plastic containers and fitments, look to Owens-Illinois.

PLASTIC PACKAGING
AN (O) PRODUCT

OWENS-ILLINOIS
GENERAL OFFICES • TOLEDO 1, OHIO
PACIFIC COAST HEADQUARTERS • SAN FRANCISCO

ty extremes. Makers of the first consumer products to be marketed in these packets were using film of very poor quality. As a result of their unfortunate experiences with their consumers, closer cooperation resulted between the manufacturer of the resin, the film maker and the specialists in packeting machinery.

The film most widely used today consists of polyvinyl alcohol internally plasticized by ethoxylation (reaction with ethylene oxide) and undoubtedly containing other additives introduced at the film casting stage. Although this film is reasonably satisfactory, much of it in the market today loses flexibility as the temperature approaches freezing. In the case of detergent products, the detergent tends to absorb moisture from the film, thus accelerating the loss of flexibility. Under such conditions, much packet breakage in shipping and handling has been experienced. Detergent manufacturers have either confined sales to temperate areas of the country or else resorted to very complex packaging measures to humidify the film and minimize the low temperature problem. Fortunately, progress is being made, and the current runs of film of this type are much improved. We look forward to continued close cooperation in the industry to provide a film which is satisfactory in every respect. Other films made from cellulose derivatives and from polyethylene oxide are currently under development and also appear promising.

Some of the products which have appeared in the market in premeasured packets, and the approximate dates of their appearance, are indicated below:

Oct. 1958 Putnam dyes in "Safety Packets"

Feb. 1959 Industrial poisons – R. T. Vanderbilt – "safety"

Feb. 1959 "Toss" – Premeasured household detergent

June 1959 "Lestare" – Household bleach

Dec. 1959 "Glo-Bol" – Toilet bowl cleaner

Aug. 1960 "Tide Redi-Pak" – Packets of "Tide" detergent

Sept. 1960 "Swerl" – New Household detergent

From this sudden burst of activity in the consumer marketing field, one wonders where this will lead. Is this the form which offers optimum convenience to the consumer? Will they pay the extra penny or so for this convenience? Will this take over the household detergent market at a time when the heavy duty liquid detergents—convenient, but expensive – have met with only limited success in the market? How about the possibilities in pre-packaged food concentrates and mixes?

For the answers to these and many other questions, everyone turns to market research. Our first consideration prior to any decision to enter this market was to determine the potential advantages of this new product convenience form. As we see it, they are:

### *Advantages*

**Convenience**
**Time saving**
**No measuring—no waste**
**No mess—no spills**
**No dust—no sneezing**
**No physical contact with "chemicals"**
**Measured dosage—optimum results**
**No hazards from careless usage**
**Modern, attractive**
**Film itself a detergent ingredient**

### *Disadvantages*

**Higher cost—film and machinery**
**No flexibility in usage—consumer not allowed to "think"**
**Good only for specific use products**
**Not suitable for hand dishwashing**
**No single size correct for every use**

So our research begins. Our objective is to test the market for a household detergent in this new form. Consumer interviews, sampling and testing come first. Research and development presumably knows all that is necessary to put together a good detergent formula—but wait! Which formula would you select if your product could no longer be over-used, under-used, or misused by the housewife? The balance between sudsing and cleaning ingredients required to induce her to pour in enough detergent is no longer valid – so the concept changes abruptly.

### *Correct Dosage*

Now, what is the proper dosage for the average wash load involving average soiling, average water hardness, etc.? Out comes the slide rule. We reach our decision. But actually it changes many times as we make product comparison tests on many such variables both in the laundry lab and in the homes of thousands of consumers. In order to provide some flexibility in usage which appeared to be indicated from consumer surveys, we chose 1.9 *oz.* packets, allowing the consumer to use one, two or three per wash as the situation demanded. Now we are ready for a full scale consumer test evaluation of our product.

In direct comparison by blind product consumer tests of products such as these against conventional cartons of bulk product, we invariably obtain a strong bias in favor of the new and novel product—the packets. Other types of tests are more useful in obtaining realistic appraisals. One such test is the monadic placement technique, in which the new packeted detergent in a plain outer carton is placed alone in the homes of one group of consumers, and the conventional detergent in bulk is similarly placed with another group. Each housewife is asked to rate the product against her usual favorite brand—as to whether it is also "one of the best," "good," "fair," or satisfactory." Using only the percentage of users voting the "one of the best" rating, the ratio of the percentages of this rating for the two products gives an indication of the relative preference of one versus the other. Results of such a test among two large groups of users were as follows:

(*Turn to Page* 127)

BROCKWAY VISION IN GLASS

**Shelf satisfaction yields buyer acceptance** • Whether it's the golden yellow of your egg shampoo or the rich ruby redness of your cough syrup, it will catch the eye of the buyer faster in crystal-clean glass by Brockway. Only glass containers give buyers eye-stimulation to trigger purchase desires. To move your product off the shelf, court buyer acceptance with glass containers —quality proved glass containers through BROCKWAY VISION IN GLASS.

SYMBOL OF QUALITY · GLASS CONTAINERS

BROCKWAY GLASS

COMPANY, INC., Brockway, Pennsylvania

**Sales Offices in Principal Cities**

SUBSIDIARIES: Demuth Glass Works, Inc., Parkersburg, W. VA.
Tygart Valley Glass Co., Washington, Pa.
Celluplastics Inc., Newark, N. J.

**Brockway, first name in containers for:**

foods
pharmaceuticals and proprietaries
prescription ware
beverages
beer
liquors
plastic containers
vials and tubing

*Integrity in glass since 1907*

**"One of Best" Ratings**

| Ratio: Soluble Packet / Conventional Bulk Detergent | |
|---|---|
| Over-all preference | 1.95 |
| Cleaning | 1.64 |
| Quick suds | 2.33 |
| Speed of dissolving | 2.04 |
| Ease of rinsing | 2.30 |
| Convenience in handling | 2.04 |
| Economy | 1.95 |

This indicated an enthusiastic reception of the packeted detergent in the test group. Response on speed of dissolving and sudsing indicated satisfactory rate of solution of the packet, and no adverse reaction to the slight delay (60 seconds) known to exist in dissolving the packeting film.

Our product has met the acid test. The consumer likes it. We now are ready to proceed with marketing. A name is chosen, a package is selected to protect the product properly, and package copy and art work are expedited to tell the story, get attention on the supermarket shelf, and create the proper image in the mind of the consumer as she buys and uses it.

Meanwhile, creative research in advertising goes to work. This must give us a message to tell in multiple exposures of a few seconds duration, at a cost of roughly $50,000 per minute on television. In this brief commercial, we must get the attention of the bored, inattentive housewife; convince her, and tell a product message that can be remembered without offending her.

Now, if a marketing plan has been worked out which includes the proper balance of media and promotional effort, the cost of which is "affordable" and will provide a reasonable payout at the market position which has been estimated, we are ready to open our sales test markets. Production has already procured packeting machinery, and test runs have demonstrated our capability to deliver the product when scheduled.

This product, "Swerl," was introduced in Charlotte, N. C. and vicinity a little over two months ago. We are now engaged in consumer surveys to determine the extent to which it has pleased the individuals who bought it. From them we learn the good qualities and the faults of the product—whether it is a novelty item or whether it will convert users permanently. Audits are being made in food stores to measure stock flow and gauge consumer movement. By this means, we compile statistics which can be projected to a nationwide marketing operation.

One major competitor is test marketing a well known detergent product packaged in this same type of film. His plan is somewhat different in that he offers the well known product in packet form (one 3-plus ounce packet per wash load) as a convenience, and also in the standard bulk package for the many users for which these packets would not be convenient. You may be sure that we are checking his test markets, as he is ours!

Ultimately, we will all know just how successful this exciting innovation in convenience packaging will be, and how best to market it. At this point, we can only report initial enthusiasm from consumers who have not yet made repeated purchases. When we consider that complete conversion of the household detergent market to water soluble packeted products would require up to 80 million pounds of film, the magnitude of this new development becomes readily apparent.■

—★—

## CCC Wins Anti-Trust Suit

U. S. District Court dismissed, on Dec. 8, the Department of Justice complaint charging Continental Can Co., New York, with violation of the Clayton Act, for its acquisition of the Hazel-Atlas Glass Co., in September, 1956.

In announcing its decision, the court noted: "The evidence adduced by the government is insufficient both qualitatively and quantitatively to establish that this acquisition has violated Section 7 of the Clayton Act in any respect."

*FOR*

**AEROSOL DISPENSING**

*THE WIDEST RANGE OF*

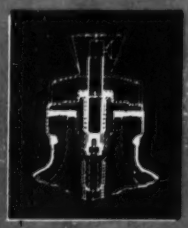
**PRESSURIZED PRODUCTS**

**RISDON**

# Valves

**The Risdon MAGNA-METER Valve**

A large capacity metering valve for dispensing pre-measured amounts from fractional to multiple cc quantities in spray, liquid or foam form.



**The Risdon METERED SPRAY Valve**

Delivers a pre-measured spray of duration determined by packager. Actuator must be released and pressed again for subsequent measured spray.

**The Risdon GB Valve**

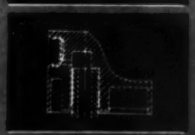
A non-metallic valve for glass, plastic and small metal containers. No spring. No metal in contact with contents. No danger of corrosion or contamination.

**The Risdon 5210 Valve**

For metal containers. One basic valve — five models with special actuator to suit specific function. Suitable for both refrigeration and pressure filling.

**The Risdon MICRO-MIST Valve**

Any Risdon valve becomes a "Micro-Mist" valve when fitted with Risdon's patented Micro-Mist mechanical break-up actuator. Enables valve to dispense 3-phase products or give super-spray performance on 2-phase and ultra-low pressure products. Increases formulation latitude and economy.



- Dispense an extensive variety of formulations including propellant emulsions or dispersions • certain types of powders • water-base products • 2-phase, 3-phase & ultra-low pressure products.
- Dispense products in spray, liquid or foam form.
- Applied to glass, plastic and metal containers.
- Dispense pre-measured dosages or unmeasured amounts.
- Available with special applicator-actuators to suit the product.

***Contact Risdon for further information, samples and prices.***

*Valves shown are covered by Patents or Patents Pend.*

RISDON

**THE RISDON MANUFACTURING COMPANY**

**AEROSOL DIVISION**

**Naugatuck, Conn.**

RI-114

Risdon valves can be fitted with special actuator-applicators such as shown.

# packaging notes

### New Custom Packager

Universal Packaging, Inc. was recently formed in Plainfield, Ind., to handle custom and creative

David G. Reilich

packaging for U. S. and Canadian manufacturers. The firm specializes in packaging of liquids, semi-liquids and solids in all heat sealable, flexible materials.

Services include package design and engineering, packaging to customer specifications, and drop shipments by air, rail or truck.

Officers are David G. Reilich, president; Arlie S. Riggs, vice-president; and Joseph E. Fidger, secretary-treasurer. Headquarters of the new company are at Mill and Buchanan Sts., Plainfield, Ind., which is 10 miles southwest of Indianapolis.

—★—

### FPBAA to Meet in March

The annual meeting of The Folding Paper Box Association of America will be held at the Drake Hotel, Chicago, March 20-22. Entries in the 16th Folding Carton Competition will be on display during the meeting. The exhibit will be open to the public March 23 in the French room of the hotel.

Entries are judged in four major categories from which 100 award winners are chosen. The categories are: technical superiority of printing, superiority of construction, best example of potential new volume use, and general merchandising superiority.

—★—

### Colton Appoints Sales Rep.

Appointment of Edward A. Wagner & Associates, Dallas, Tex., to handle the complete line of filling equipment, and pharmaceutical and chemical machinery for Arthur Colton Co., Detroit, Mich., was announced recently by W. A. Doepel, sales manager.

Wagner will handle sales of Colton machinery in Texas, Oklahoma, Louisiana and Arkansas.

—★—

### Plastic Bottle Use Rises

"Already one bleach manufacturer has indicated it will introduce a plastic bottle in the near future. This market alone could absorb at least 60 million pounds of polyethylene resin in a year." This statement was made by George Wash, director, plastic sales division, Phillips Chemical Co., Bartlesville, Okla., who also predicted "high density polyethylene will continue to break plastics sales records in 1961."

Other bright spots in the rapidly expanding use of these resins are clear and industrial film. An estimated 180 million pounds of United States produced high density polyethylene and ethylene copolymer resins will be sold in 1960, topping the record 1959 year by nearly 80 million pounds. Phillips pioneered its high density polyethylene resin, "Marlex," less than four years ago, and recently announced an expansion of its "Marlex" plant facilities near Houston, Tex., to bring capacity up to 100 million pounds. Phillips Chemical Co., is a subsidiary of Phillips Petroleum Co., Bartlesville, Okla.

### Mullany To Hazel-Atlas

Harry J. Mullany has been named general manager of manufacturing for the Hazel-Atlas Glass

Harry J. Mullany

Division, (Wheeling, West Virginia) of Continental Can Co., New York. The announcement was made recently by W. M. Cameron, executive vice-president of the glass and plastics group.

Mr. Mullany has 24 years of experience in glass container manufacturing and, most recently, was vice-president in charge of manufacturing for Thatcher Glass Mfg. Co., New York.

—★—

### Packaging Committee Meets

Committee D-10 on Shipping Containers, American Society for Testing Materials, at its recent annual meeting reviewed current production of industrial packaging tapes for closure, sealing and reinforcing of the container and also as used for its anti-skid properties. The committee established two new programs covering packaging tapes and inflatable dunnage. Its first task will be to establish physical and performance tests for packaging tapes.

The publication of a recommended practice to determine the

(*Turn to Page* 135)

# HOW MUCH DOES A CONSUMER COMPLAINT COST?

**A LITTLE CARE IN THE CHOICE OF YOUR SUPPLIER WILL GO FAR IN CUTTING COMPLAINTS AND REJECTS.**

That's why Precision Valve Corporation takes a lot of care in processing their valves . . . quality controls at every step of the way reduce the chances of rejects to a minimum, and continuing research reduces the minimum.

*Take care* . . . take Precision Valves for your aerosol products.

**PRECISION VALVE CORPORATION**
**700 Nepperhan Avenue, Yonkers, N.Y.**

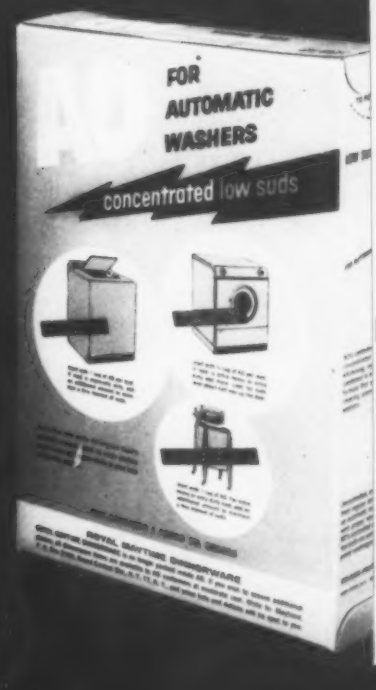
Two new scented deodorants, "Finishing Fragrance" and "Spring Flowers," were introduced recently in glass pressure packages by Radelle division of Commercial Laboratories, Inc., Newark, N. Y. "Finishing Fragrance," a deodorant for the hair, is packaged in shimmering, black-sheathed glass bottle decorated with white screening. "Spring Flowers," a cologne, is packed in pink plastic coated bottle, also decorated with white screening. Both packages are topped with white plastic closures. Pressure bottles and screen decoration are supplied by Owens-Illinois Glass Co., Toledo. Closures by Wheaton Plastics Co., Mays Landing, N. J.

New "Ten-O-Six" treatment shampoo, just announced by Bonne Bell, Cleveland, is based on facial cleanser formula of the same name, according to the maker. Eight ounce bottle of shampoo retails for $2.00 plus tax at cosmetic counters.

# WHAT'S NEW?

Newest addition to line of floor care products by S. C. Johnson & Son, Inc., Racine, Wis., is described as a "wash and wear" self-polishing floor wax that retains its gloss after "suds washing." "Stride," claimed to be the first self-polishing wax on the market in a polyethylene plastic bottle, comes in 14 and 26-ounce sizes, retails for 69 cents and $1.19, respectively. Plastic bottles are by Continental Can Co., New York.

New cartons for "Ad" low sudsing detergent of Colgate-Palmolive Co., New York, utilize "Day-Glo" fluorescent ink, which transmits a red, neon-like brilliance that is brighter than ordinary printing inks. Cartons were produced for Colgate by Packaging Corporation of America, Chicago.



## Captions, This Page

The entire "mycin" line of new specialty disinfectants, introduced recently by Franklin Research Co., Philadelphia is packaged in lithographed five gallon containers. "Phenomycin" comes in lithographed gallons and matching glass gallons are used for packaging "Fabromycin," "Iomycin," and "Quatromycin."

Allen B. Wrisley Co., Chicago, has introduced its new "Sof'-Lite Lemon Shampoo," with lemon additives. The easygrip eight ounce bottle, contains a rich lather shampoo, developed for use in hard water. Retails for 79 cents.

"Neocera," an aerosol floor wax, has been introduced in Italy by the Italian affiliate of Geigy Chemical Corp., Ardsley, N. Y. The wax, in an aluminum container, utilizes an aerosol valve made by Solfrene, S.p.A., Italian licensee of Risdon Manufacturing Co., Naugatuck, Conn.

Williams "Lectric Shave" is now being marketed in a new 1¾ ounce glass container and features a special 50 cent get-acquainted offer to promote this new size. Containers are supplied by Brockway Glass Co., Brockway, Pa., caps by Armstrong Cork Co., Lancaster, Pa. and labels by William W. Fitzhugh, Inc., New York. Container Corp. of America, Philadelphia, supplies folding boxes.

## Captions, Facing Page

New "Touch-N-Spray," purse-size perfume aerosols, marketed by Richford Corp., Oceanside, L. I., have a colorful basket-weave cover molded of "Tenite" polyethylene, supplied by Eastman Chemical Products, Inc., New York.

Balenciaga is introducing its "Quadrille" and "LeDix" fragrances in a Bridgeport Metal Goods refillable metal case. Two ounce Foster Forbes uncoated bottle is being used with plastic coated refill bottle by Wheaton Plastics. Filler is Aero-Chem, using V.C.A. B18F metered valve.

"Tianne" and "Odalisque" fragrances by Nettie Rosenstein, New York, are packaged in a Bridgeport Metal Goods one ounce refillable case. Box is by Brooks and Porter Inc., New York, with outer wrap by Foxon Co., Providence, R. I. Coated bottle is by Wheaton Plastics. Filled by Aero-Chem Fillers; the B-18 metered valve is supplied by V.C.A., both of Bridgeport.

Parfums Cordav Inc., New York, has introduced a new spray perfume in a slim, silvery cylinder with contrasting gold band. Leakproof, spillproof and refillable unit holds "Toujours Moi," "Fame" or "Zigane" perfumes at $5. plus tax. "Trapeze," "Toujours Toi" and "Possession" retail for $5.50 plus tax; and "Jet" is $4. Refills are $1.25 less than retail price of complete unit.

"Arrive Beautiful," a 16cc metered hair spray, is now being marketed by Arrivals, Ltd., Chicago. Screening of the V.C.A. 16cc tube is by Screen Craft and filled by G. Barr & Co., Chicago. Metal Fabrications supplies the aluminum overcap. The B18 metered valve is by V.C.A.

"Zephiran" external antiseptic by Winthrop Laboratories now comes in one ounce (shown here) and six ounce aerosol units. Spray is tinted to show area of application and finely particulated by mechanical break-up valve by Risdon Manufacturing Co., Naugatuck, Conn. Red plastic coated bottle is made by Wheaton Plastic-Cote, Corp., Millville, N. J., loaded by Armstrong Laboratories, West Roxbury, Mass.

Eight and three ounce bottles of "Odara" concentrated mouth antiseptic by Lorvic Corp., St. Louis, bear new applied color label, claimed to reduce filling time by one third. Bottles, permanent applied labels, and plastic closures are supplied by Owens-Illinois Glass Co., Toledo.

"Pirouette," a cologne mist, is being marketed by Edith Rehnborg in a three ounce purse size aerosol container by Peerless Tube Co. of Bloomfield, N. J. Product is loaded by Western Filling Corp., Los Angeles. Mist is dispensed through B9-FG valve of V.C.A., Inc., Bridgeport, Conn. Trigger top actuator is by V.C.A. and Metal Fabrications.

Wilkins Co., Cortland, N. Y., now offers its "KLenz-M" liquid lens cleaner in new square gallon container of high density polyethylene. Made by Plax Corp., Hartford, Conn., bottle is claimed to save 37 per cent storage space, to be 2½ pounds lighter than conventional bottles. Phenolic cap is product of Armstrong Cork Co., Lancaster, Pa.

BALENCIAGA
PARIS

ANNE
Odalisque

Arrive Beautiful
RESCUE

TINTED
ZEPHIRAN
Spray
ANTISEPTIC

8 FLUID OUNCES
CONCENTRATED
ODARA
• MOUTH WASH
• GUM MASSAGE
• ASTRINGENT
• GARGLE
THE LORVIC CORP.
ST. LOUIS 12, MISSOURI

MIROUETTE

K-LENS-M
Lens Cleaner
CLEANS BETTER AND
LEAVES NO FILM
QUICK AND EFFECTIVE
for GLASS OR PLASTIC
NO. 297
Non-Inflammable
THE WILKINS CO., INC.
CORTLAND, N.Y. U.S.A.
one gallon

**CONTAINER CORPORATION OF AMERICA** WORLD'S LARGEST PRODUCER OF PAPERBOARD PACKAGING

**BEGINNING YESTERDAY,**
**CCA PEEL-PROOF**
**MEANS A**
**WAX LAMINATION**
**TWICE AS STRONG**
**AT NO INCREASE**
**IN COST**

CCA

Our laboratories researched it, our mills developed it, the new Concora Peel Tester verifies it: CCA's PEEL-PROOF laminating process more than doubles bond strength, hence carton performance. One way to be sure of lamination strength is to spot-check shipments with your own Peel Tester. Easier still, specify PEEL-PROOF board and depend on CCA facilities coast to coast to deliver nothing less. The CCA packaging system will pack, move and sell your product faster, better – more profitably. Information from Container Corporation of America 99 Park Avenue, New York 16.

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**FOLDING CARTONS SHIPPING CONTAINERS SEFTON FIBRE CANS MOLDED PLASTIC PRODUCTS POINT-OF-PURCHASE DISPLAYS PAPERBOARD**
**CONTAINER CORPORATION OF AMERICA CHICAGO 3 . . . LOCAL SERVICE FROM 122 STRATEGICALLY LOCATED MARKETING CENTERS**

(*From Page* 129)

safe dead-load storage lift of stacked corrugated and solid fibreboard boxes under variable storage conditions is expected in the near future. A summary, resulting from a questionnaire covering the packaging industry, dealing with electronic instrumentation used to determine displacement of package cushioning materials following impact will also be published.

Next meeting of ASTM Committee D-10, will be held in Chicago, April 10-12, 1961. For details contact R. F. Uncles, American Cyanamid Co., 30 Rockefeller Plaza, New York.

★

## Glass Container Demand Up

A seven per cent increase in glass container demand in 1961, over 1960, was forecast by Peter Hoguet, president of the Econometric Institute at the fall meeting of the Glass Container Manufacturers Institute, Inc., New York, held recently at the Boca Raton Hotel, Boca Raton, Fla.

Mr. Hoguet foresaw total demand for glass containers, including exports, reaching 170.1 million gross in 1961.

He estimated the demand for toiletries and cosmetics at a total of 14.8 million gross, a seven per cent gain. In household and industrial containers, a five per cent gain is expected, the total demand estimated at 13.9 million gross. Mr. Hoguet predicted a 12 per cent gain for pharmaceutical containers, with a total gross of 24.3 million expected.

**Gordon D. Zuck (holding sample), president of Vulcan-Associated Container Companies, Inc., Birmingham, Ala., introduces the "New Pearl-White Plastic Bail Grip Demonstration Kit" to company executives.**

★

## Plastic Handle Pails

Development of white plastic handles for its line of steel shipping pails was announced recently by Vulcan-Associated Container Companies, Inc., Birmingham, Ala. In addition to increasing the merchandising appeal of pails, the polyethylene bail handles are designed to reduce scratching and marring of pail surfaces during shipping and handling. Vulcan claims that the construction of the grips lessens the actual contact between adjacent containers and under severe impact acts as a "shock absorber." This reduces denting and deforming, which is considered significant because of the trend towards lighter gauge, less expensive steel pails. In addition, the plastic handles will not smudge or mark adjacent pails, according to Vulcan. The new plastic grips are standard on all Vulcan pails at no extra cost.

Designed with nine tiny air cells, the plastic handles act as a cushion to the hands when lifted. They will not crack or splinter.

The new handles, described as "pearl white" in color, will be a stock item at all seven Vulcan plants in the U. S. and Canada.

Free sample packages of a complete new plastic handle are available for comparison testing.

★

## Plastic Bottle Coder

A portable conveyor-line attachment for imprinting bottoms of plastic bottles, employing a new kind of ink that adheres permanently to plastic surfaces, is available from Adolph Gottscho, Inc., Hillside 5, N. J.

Set up at any point on the production line, the coder automatically separates and holds the bottles as they are imprinted, and discharges them to continue on the conveyor. Bottles may be filled or empty, feed may be continuous or intermittent. The unit employs no dead plates, and product flow is not interrupted in any way, the company claims. It is adaptable for any application where line speeds of up to 600 bottles per minute are maintained.

**R. H. Hetzel (left), Armstrong Cork Co., Lancaster, Pa., E. M. Terner (center), Metro Glass Division, National Dairy Products Corp., Jersey City, N. J., and G. F. Collins, Jr. (right), Liberty Glass Co., Sapulpa, Okla., confer on committee matters at the three day fall meeting of the Glass Container Manufacturers Institute, Inc., New York, held recently at the Boca Raton Hotel, Boca Raton, Fla.**

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This is perhaps the ultimate in fine packaging. Attractive, functional, efficient. Even a zipper couldn't improve it! We readily admit that even with the advanced packaging techniques, modern equipment and time-tested skill we have at G. Barr & Company, Mother Nature—in her field—does a superior packaging job.

But AEROSOLS! That's a different matter! Private label aerosol manufacturing has been our field for over ten years. And if the hundreds of millions of perfectly formulated and filled packages we've made for marketers of famous brand name products doesn't convince you that we are tops in this specialized field, we're ready to prove it with a test run of a few thousand packages of your product. In other words: If Mother Nature doesn't do YOUR packaging, call on us!

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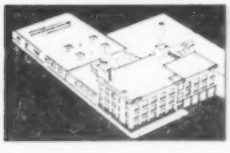

ACRES OF AEROSOL PACKAGING FACILITIES

# new trade marks

THE following trade marks were published in recent issues of the *Official Gazette* of the U. S. Patent Office in compliance with section 12 (a) of the Trade Mark Act of 1946. Notice of opposition under section 13 may be filed within 30 days of publication in the Gazette. See rules 20.1 to 20.5. As provided by section 31 of the Act, a fee of $25 must accompany each notice of opposition.

**Kloze Fresh**—This for chemical composition designed for use as a spray to deodorize wearing apparel. Filed May 9, 1958 by Lora, Inc., Chicago. Claims use since Apr. 11, 1958.

**Odex** — This for deodorant in the form of a liquid for industrial use by dry cleaners. Filed July 21, 1959 by Stamford Chemical Co., Stamford, Conn. Claims use since Apr. 9, 1956.

**Ratorex**—This for rat or mouse poison. Filed Dec. 11, 1959 by McConnon & Co., Winona, Minn. Claims use since Aug. 16, 1951.

**Icemaster**—This for water soluble chlorides for the removal of ice, sleet, and snow on streets, highways and parking lots. Filed Dec. 22, 1959 by Michigan Chemical Corp., St. Louis, Mich. Claims use since Oct. 30, 1959.

**Virginaire** — This for scented air freshener spray. Filed Mar. 15, 1960 by Virginaire Products, Inc., Charlottesville, Va. Claims use since Dec. 7, 1959.

**Gardane**—This for insecticide powder. Filed Apr. 8, 1960 by Lien Chemical Co., Franklin Park, Ill. Claims use since Nov. 25, 1959.

**Knock 'em Down**—This for insecticide, namely a roach killer. Filed Apr. 12, 1960 by EMT Chemical Co., Paragould, Ark. Claims use since Apr. 2, 1960.

**Easy-enz** — This for starch. Filed Apr. 19, 1960 by Corn Products Co., New York. Claims use since Feb. 11, 1960.

**Shampro** — This for shampoo. Filed May 27, 1959 by Viviane Woodard Corp., Panorama City, Calif. Claims use since Dec. 11, 1958.

**Bissell**—This for liquid detergent and wax remover. Filed Mar. 21, 1960 by Bissell Inc., Grand Rapids, Mich. Claims use since Sept. 11, 1957.

**Barrier** — This for hair shampoo. Filed Apr. 11, 1960 by Colgate-Palmolive Co., New York. Claims use since Mar. 18, 1960.

**Myco** — This for detergents, soaps, and cleaners for floor and general purposes, and preparations for removing paint, varnish, and wax from floors and other surfaces. Filed May 19, 1960 by Masury-Young Co., Charlestown, Mass. Claims use since 1949

**Soil Sterilant** — This for weed and grass killers. Filed Jan. 23, 1959 by R. H. Bogle Co., Alexandria, Va. Claims use since Jan. 5, 1959.

**Comet** — This for corrosion inhibitor. Filed June 3, 1959 by Comet Rice Mills, Houston, Tex. Claims use since Apr. 29, 1959.

**Reslabs**—This for sodium hypochlorite for use as a water purifier, bleaching agent, and liquid bactericide and disinfectant. Filed Oct. 28, 1959 by Reslabs, Inc., Chicago, Ill. Claims use since Aug. 26, 1954.

**Built** — This for insecticides and rodenticides for farm use. Filed March 1, 1960 by Vita-Plus Corp., Madison, Wis. Claims use since Jan. 1959.

**Kwit** — This for insecticides. Filed Apr. 5, 1960 by O. M. Scott & Sons, Marysville, O. Claims use since Mar. 17, 1960.

**Vapona** — This for insecticides. Filed Apr. 5, 1960 by Shell Oil Co., New York. Claims use since Feb. 9, 1960.

**Dozone**—This for textile finishing compositions — water repellent compositions. Filed June 3, 1960 by Metro-Atlantic, Inc., Centredale, R. I. Claims use since Apr. 15, 1960.

**Sonitizer** — This for cleaning compounds, namely detergents, solvents, acids and alkalies in liquid or powder form, for use in ultrasonic cleaning devices. Filed Feb. 23, 1960 by Ultrasonic Industries, Inc., Albertson, N. Y. Claims use since Feb. 8, 1960.

**Sebaclen** — This for medicated shampoo. Filed Apr. 5, 1960 by Denver Chemical Manufacturing Co. doing business as Wampole Laboratories, Stamford, Conn. Claims use since Mar. 25, 1960.

**Otto the Orkin Man**—This for insecticides. Filed May 12, 1958 by Orkin Exterminating Co., Atlanta, Ga. Claims use since Feb. 28, 1957.

**Perm-O-Therm**—This for antifreeze preparation. Filed Aug. 31, 1959 by S.M.W. Buying Syndicate, Inc., New York. Claims use since Aug. 3, 1959.

**Solution 45**—This for insecticide. Filed Dec. 7, 1959 by Shulton, Inc., Clifton, N. J. Claims use since Oct. 15, 1959.

**Target**—This for weed killer packaged in pressurized containers. Filed Dec. 30, 1959 by Demert & Dougherty, Inc., Chicago. Claims use since May 31, 1955.

**Magna-Dust**—This for aerosol dispensed chemical compound sprayed on dust cloths, mops and other cleaning devices to attract and retain dust. Filed Apr. 18, 1960 by Bronson Products Co., Chicago. Claims use since Apr. 23, 1959.

**Die-Fly**—This for fly insecticide. Filed June 17, 1960 by Triangle Chemical Co., Macon, Ga. Claims use since May 26, 1960.

**Coast**—This for soap and synthetic detergents for household washing and cleaning purposes. Filed Feb. 4, 1960 by Procter & Gamble Co., Cincinnati, O. Claims use since Dec. 16, 1959.

**Flag**—This for sudsing cleaner, cleanser and detergent. Filed Apr. 28, 1960 by Procter & Gamble Co., Cincinnati, O. Claims use since Mar. 4, 1960.

**Keen Kleen**—This for waterless hand cleaner. Filed May 12, 1960 by Battenfeld Grease and Oil Corp., Kansas City, Mo. Claims use since Nov. 1, 1958.

**Scotch** — This for typewriter cleaner. Filed May 19, 1960 by Minnesota Mining and Manufacturing Co., St. Paul, Minn. Claims use since Nov. 11, 1959.

**Traxion** — This for chemical compound for melting ice and producing friction. Filed Nov. 7, 1956 by Tolman-Shea Laboratories, Inc., Keene, N. H. Claims use since Feb. 3, 1950.

**Nabac 25**—This for agricultural bactericide and fungicide. Filed Nov. 25, 1959 by Nationwide Chemical Co., Fort Meyers, Fla. Claims use since Oct. 1, 1958.

**Negastat**—This for static dust preventive which is used for coating surfaces and the like to eliminate static electricity accumulations and to repel dust therefrom. Filed Apr. 11, 1960 by Playtime Products, Inc., Warsaw, Ind. Claims use since May 29, 1951.

**Haze**—This for insecticide-fungicide preparations for the protection of roses and other plants. Filed May 17, 1960 by O. M. Scott & Sons Co., Marysville, O. Claims use since Apr. 28, 1960.

**D-C** — This for multi-purpose cleaner. Filed Oct. 19, 1959 by Damon Chemical Co., Alliance, O. Claims use since Jan. 4, 1953.

**Date-Line** — This for liquid shampoo and curl preparation. Filed Dec. 3, 1959 by Mennen Co., Morris Township, N. J. Claims use since Oct. 2, 1959.

**Cerfa-Kleen**—This for cleaning compounds for metal surfaces and fibers. Filed Jan. 18, 1960 by E. F. Houghton & Co., Philadelphia. Claims use since Mar. 5, 1959.

**Tandem**—This for hair shampoo. Filed Apr. 14, 1960 by Bristol-Myers Co., New York. Claims use since May 5, 1959.

# You have a working partner in aerosols at General Chemical

***Sales presentations . . . an example of service from General Chemical designed to support the business growth of contract fillers***

To help you develop new business, General Chemical makes available its staff of sales, marketing and technical specialists to work with you on sales presentations to prospective aerosol marketers. General has prepared an interesting, informative sales presentation designed for busy executives and will help adapt it to your personalized selling needs. In this way the resources and capabilities of General Chemical support your business growth.

In addition, General Chemical offers these comprehensive services to help you strengthen your position as an aerosol specialist:

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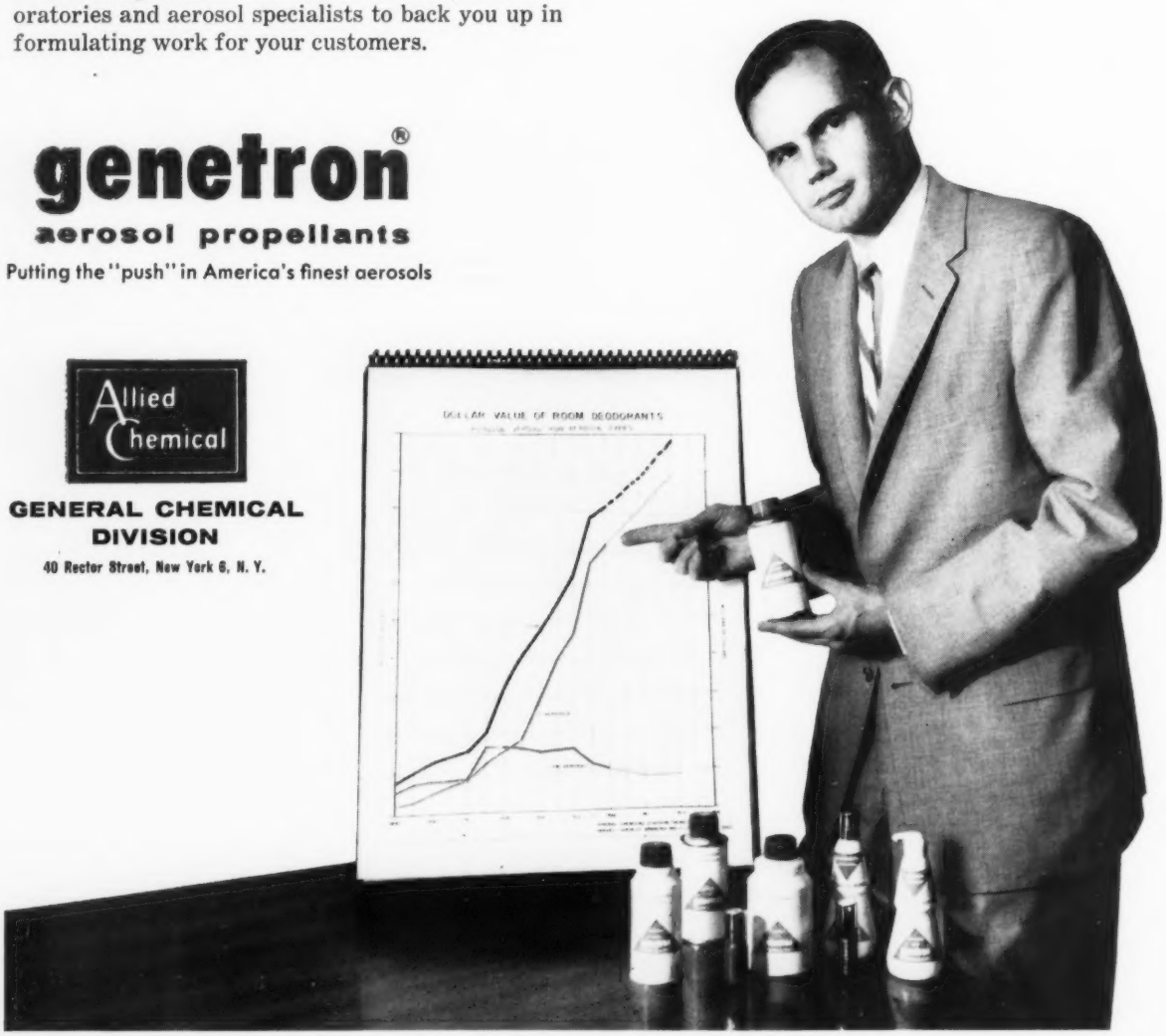

# Aerosol Valve Quality Check

**To ensure smooth aerosol dispensing, the valves must be checked upon delivery, on filling line, and during storage. Customers' complaints are source of in use data.**

**By Norbert H. Brusky*,**
S. C. Johnson & Son, Inc.,
Racine, Wis.

THE container of a conventionally packaged product is merely a means of transporting the commodity from the producer to the consumer in a satisfactory manner. If the tear-strip on a package of cigarettes or the snip top on a bottle of household detergent fails to function perfectly, it is not a matter of life or death, because the consumer will manage somehow to release the product and thereby receive full value from his purchase. An aerosol unit is very different. Its contents are captive; its usefulness depends on the valve releasing the product. A plugged orifice, a pinched off dip tube, a missing actuator, or a body staked so tightly that the stem does not return to its fully closed position, will each render an aerosol unit quite useless. Yet, the valve on an aerosol package, when it functions perfectly, delivers the product in the intended manner, with utmost convenience and with optimum performance.

### *Areas of Valve Control*

To stay within the scope of this paper, let us assume that all development work required for a satisfactory, marketable aerosol product, has been completed and we have a formula, a process, and a package, the best combination that can be conceived. We go on then to its production and here is where the quality control man takes over. Which points must he consider in so far as this all-important valve is concerned?

Valve suppliers have done an extremely fine job in providing good quality valves. It is amazing that a tiny intricate mechanism, such as the modern aerosol valve, can be mass produced with such uniformity and freedom from defects, and yet at such low cost. We assume that valve manufacturers are using good quality control procedures and are enjoying the benefits.

Though our experience in this area has been good, there have been instances where problems have come up. The fact that problems exist, together with the very vital part that the valve plays in an aerosol unit, make it imperative that valve quality be maintained. As with other products, quality cannot be inspected into valves,—quality has to be present. Only the lack of quality can be detected and appropriate action can be taken.

The aerosol quality controller is concerned with three distinct phases of valve quality: First, quality of incoming valves; second, maintenance of quality on the filling line; and third, quality follow-up, which deals with information culled from retained sample file, from inspection of warehoused stock and from investigation of complaints.

### *Incoming Valve Inspection*

Incoming valve inspection, first of these areas, encompasses sampling, testing, and disposition of shipments of valves received. Using a typical spray valve as our example, let us look at the various points which must be considered.

First, make sure the valve is fully described in a specification — one which is mutually agreed upon. Nothing makes for a bigger fiasco than your vender giving you one valve when you want another. When a shipment of valves arrives, check the descriptive data on the outside of the cartons to make sure this agrees with your specification and that there are no "odd-balls" in the lot. Examine the cartons for damage, evidence of entry, loss of contents, and the like.

It might be well for valve manufacturers to examine their packaging. While the use of polyethylene bags to protect valves from dust, dirt, and moisture, is fine, we wonder if outside cartoning doesn't sometimes leave something to be desired. Provide cartons which are structurally strong enough to stand the gaff of transportation and warehouse stacking! Clean up the outside faces of the carton of needless markings and

*Paper presented at 47th annual meeting, Chemical Specialties Manufacturers Association, Hollywood, Fla., Dec. 7, 1960.

advertising message! Put in neat, legible fashion only information which is necessary! This will make stock handling, separation, inventory, rotation and removal much easier and less subject to error.

Since one carton of valves contains many pieces, you don't usually have very many cartons, so sample them well. This is the sampling schedule we use on valves with which we have had previous experience:

| Size of shipment in cartons | Number of cartons sampled |
|---|---|
| 1-5 | all |
| 6-15 | 7 |
| 16-65 | 10 |
| 65-110 | 15 |
| 111-180 | 25 |
| 181-300 | 35 |

This looks like a big job, and it is. A good share of the time of our packaging materials inspector is spent on valve inspection and we think it is time well spent. Our sampling of each carton consists of first examining 50 valves for points which can be observed visually and then taking a sample of five for a more detailed examination.

### Visual Examination

In this visual examination, check as follows:

**Button or actuator**
1. Style, color, arrow, tactile surface
2. Orifice, taper, orifice insert
3. Stem opening for fit, shape, concentricity
4. Stress cracking, flash, dirt or foreign matter
5. Action—ease of depression, length of stroke, shut-off

**Stem**
1. Color
2. Straightness, damage, flash, molding irregularities

**Cup**
1. Style—whether conical, flat, bumped, dimpled
2. Diameter—fit to can, particularly if dimpled.
3. Plating or coating on top or bottom for coverage, uniformity, scratches and abrasions
4. Pedestal for squareness, staking, breaks in the metal
5. Damage, dents, incomplete assembly

**Flowed-in gasket compound**
1. Skips, bubbles, uniformity of thickness, splatters
2. Color, hardness, adhesion

**Body**
1. Style—long or short, color
2. Orifice
3. Flash, damage—from stake or from dip tube attachment

**Dip tube**
1. Diameter, uniformity, length, flexibility, curvature
2. Attachment to body, stress cracking, pushed on fully, folded over
3. Cut-off at bottom
4. Damage, flattening, collapse

### Detailed Examination

For detailed examination of the random sample of five valves from each of the sampled cartons — mark each bunch of five as to the carton from which it was taken. Remove buttons and dip tubes and take valves apart with a press and check as follows:

**Button or actuator**
1. Orifice diameter—we use a 3-D microscope which has a grid marked in it to make this measurement. We prefer this to sizing with drills because we are able to examine the hole for "out-of roundness," flash, etc. at the same time.
2. Internal chambers—section the button and with a magnifier or comparator, examine the chambers for shape and molding irregularities.

**Stem**
1. Crosshole or stem diameter — examine in same manner as button
2. Flash, burrs

**Washer gasket**
1. Dimensional measurements — I.D., O.D. and thickness can be measured if desired.
2. Irregularities such as ragged cutting, extraneous shreds of rubber, wrinkles
3. Material—test to determine whether proper rubber was used.

**Spring**

Normally, examine only for irregularities; however, you may check for dimensions, material, compression.

**Body**
1. Orifice diameter—as on the bottom and stem, particularly if the orifice is restricted.
2. Flash, stake damage.

Quite a few points have just been enumerated; many I am sure have been missed, but this gives an idea of what to look for.

Various special tests or measurements can be made depending on experience with a particular valve. If, for example, spray pattern is of interest, you may choose to take a sampling wherein you put actuators on finished cans and then examine the spray patterns. If you are concerned with

(*Turn to Page* 143)

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**Edmund Bennett, left, president of Fluid Chemical Co., Newark, N. J., contract aerosol loading firm, discusses aerosol principle with Dr. Roy A .Bowers, dean of the College of Pharmacy of Rutgers University, in Newark, N. J. Mr. Bennett made gifts of equipment to enable the New Jersey State University pharmacy college to open a new aerosol laboratory recently.**

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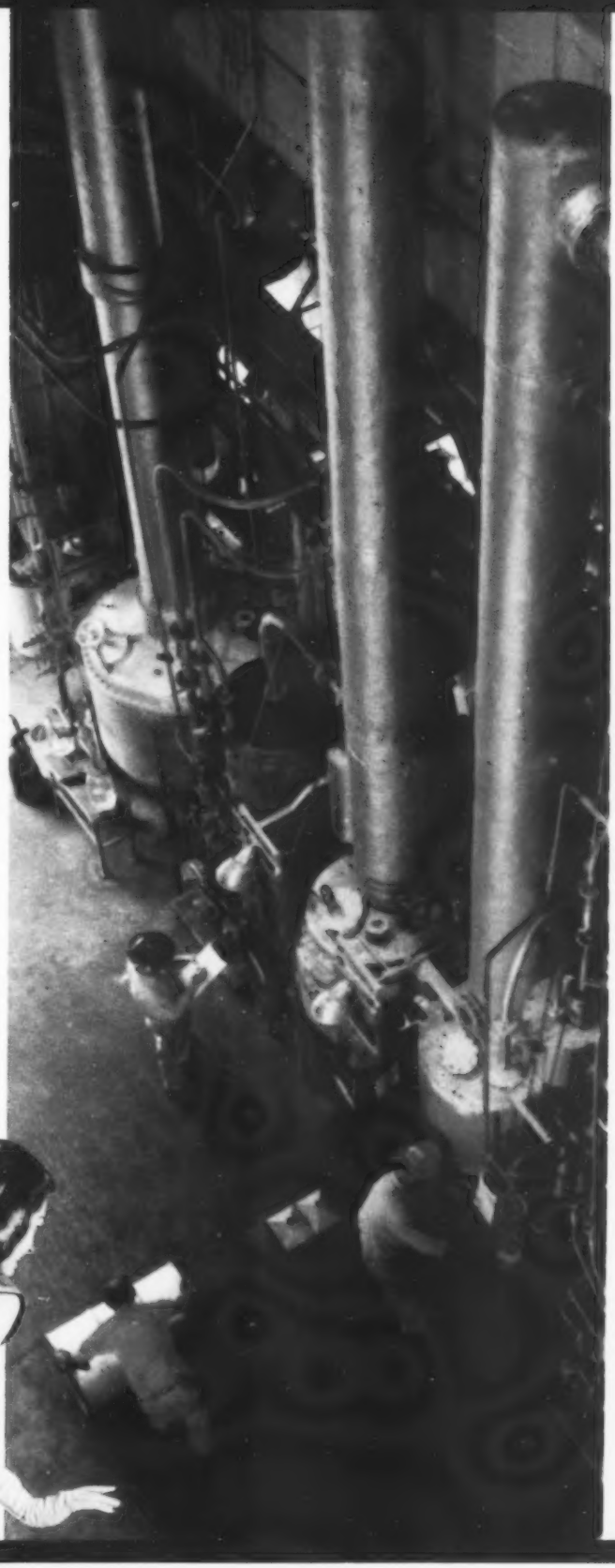

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(*From Page* 140)

stress cracking of the actuator, you might immerse an appropriate sampling in product for a period of time and then examine either visually or by spraying. On one of our products, we want the actuator and the dip tube to be oriented to a mark on the valve cup, so we examine our shipments accordingly. However you devise your testing program to cope with your specific problems, make sure you carry it out thoroughly and consistently.

Convey results of your incoming valve inspection to your supplier. If he never hears from you, he naturally supposes that everything is in order. Obviously, if you reject a shipment for return, you will have contacts with him. But, what about the minor defects you find from time to time, things you would like to see improved. Send him samples of these defects; give him an idea of the frequency with which they occur. This will enable him to take corrective action on a going basis and thereby continually improve the quality of the valves you will be receiving.

When deciding whether to reject a shipment for return, you must realize that certain defects, though you may not be happy with them, will be culled out in your filling process. Awareness of a defect and proper alertness and/or corrective measures on the part of line personnel might well take care of a problem.

### *Valves on the Filling Line*

If you are filling only one product and have therefore only one model valve on the premises, it is pretty hard to make a mistake and use the wrong valve. However, if you are stocking a number of different models for different products, make sure the proper one is being used. (We have two valves that by all external appearances are the same, the only difference being that one has a neoprene gasket while the other has buna.)

Aside from whatever is being done by production personnel to keep things "straight," arrange for your quality control people to check periodically on the "correctness" of the valve being used on the line.

During actual filling operations, there are several places where valve quality and performance characteristics might be jeopardized. Make sure that cans are clean and that contents are free of foreign material or precipitate so that valve passages do not become blocked or clogged. Whether you insert valves by hand or machine, make certain that the valve is not damaged, that dip tubes do not fall off, that valves that fall to the floor are examined for dirt or damage before being recommitted to the line. See that the crimper is not damaging the valve. If you are pressure filling, make sure you are not depressing or cocking the pedestal so as to alter the sealing and action characteristics of the valve. See that actuators are applied and spray testing is performed without causing damage. Make sure the water bath is not changing valve characteristics; submersion of some actuators in hot water affects their spray patterns. Collect water bath data and determine cause for leakers.

As units emerge from the water bath, make certain they are dried off properly so valve cups do not rust. See that labeling and overcapping operations are not damaging the valves, knocking off the actuators, and the like. Some of these points may sound ridiculous, but they are important and, if neglected, can cause untold trouble.

### *Quality Follow-Up*

Retain sample file examination, warehouse storage and complaint investigation add up to quality follow-up.

A retain sample file should be a representative cross section of production. Units filed should be weighed, so that they can be reweighed at any time to determine whether leakage or seepage has taken place. Retain file examination is an activity that is frequently neglected. Lack of time, difficulty in getting at the samples, poor working conditions in the storeroom are typical excuses. This file is important. Try to set it up so that it can be examined easily. If you cannot get to it routinely, take every advantage of a slack period to get it examined. Reweigh the cans, examine them, there might be a tip-off of worse things to come.

As for warehouse storage, try to arrange for periodic examination of the quality of stockpiled finished products. If any leakage is reported, trace it down—try to determine the cause. Determine if your product should be stored right side up or upside down; sealing characteristics of the valve might be affected.

Sample and examine returned stocks of product particularly if complaints have been registered. By all means, take apart valves where the customer has complained of poor spray pattern, intermittent spray, no spray, leakage around the valve, valve shutoff failure and the like. Correlation of complaint information and retain sample inspection may be very enlightening. The more information you have about valve failures, the better you will be able to examine valves for cause of failure.

Certainly, utmost care and vigilance is required on the part of every aerosol filler to protect the quality of aerosol products and thereby uphold the good reputation and generous acceptance they have earned on the consumer market.■

—★—

### Jergens Backs TV Show

Andrew Jergens Co., Ltd., Perth, Ontario, Canada, will sponsor "Red River Jamboree," a weekly country and variety music show, to promote "Woodbury Soap," "Woodbury Shampoo" and "Jergens Lotion." This is Jergens' first venture into television shows.

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### Henry SPC Vice-President

Richard H. Henry has been appointed vice-president and director of export, Spray Products

Richard H. Henry

Corp., Camden, N. J., it was announced recently by Charles P. Orr and Miles Powell, owners of the firm. Mr. Henry is in charge of development of all export business for the corporation.

Prior to joining Spray Products Corp., Mr. Henry was manager of travel for the American Express Co. He was associated with the firm for 14 years, during which time he lived in several foreign countries and traveled in many others.

—★—

### Struthers & Co. Moves

John Struthers and Co., Ltd. has announced the move of their plant, laboratory and offices to 5710 Royalmount Ave., Town of Mount Royal, Montreal 9, Quebec. The new telephone number is Riverside 7-2481.

—★—

### Aerosol Insecticide System

Automatic treatment of the interior of aircraft with insecticides is now possible with a new system developed by U. S. Department of Agriculture scientists. Small, one-shot aerosol sprayers, each designed to treat 1,000 cubic feet of space, are placed strategically throughout a plane and automatically controlled by the pilot.

The system was devised by: A. H. Yeomans, engineer, R. A. Fulton, chemist and W. N. Sullivan, entomologist, of USDA's agricultural research service in Beltsville, Md. Mr. Sullivan was one of the research men who developed the original aerosol bomb, in 1941.

In tests, the system gave complete kill of both caged and free flying-yellow fever mosquitoes throughout a 2,000 cubic foot fuselage, using 100 milligrams of allethrin per 1,000 cubic feet.

—★—

### Risdon Appoints Pearson

Richard P. Pearson has been named assistant sales manager of the aerosol division, Risdon Manufacturing Co., Naugatuck, Conn., it was announced recently by Donald S. Tuttle, Jr., vice-president in charge of sales for the aerosol and cosmetic divisions.

Mr. Pearson joined Risdon in 1951, and for the past two years, was assistant sales manager of the wire goods division. From 1956 to 1959 he served as assistant sales manager of wire specialties.

—★—

### Allied Area Superintendent

Appointment of Francis V. Toppin, Jr., as area superintendent of the Baton Rouge works of Allied Chemical's General Chemical Division, New York, was announced last month. Mr. Toppin supervises production of "Genetron" fluorinated hydrocarbon aerosol propellants and refrigerants.

With General Chemical for eight years, Mr. Toppin was superintendent of its "Genetron" plant at Danville, Ill. for the past five. Before that he was assistant superintendent of General's works at Marcus Hook, Pa.

### Carbide Names Two

Appointment of E. E. Husted as manager-fluorocarbons marketing for Union Carbide

E. E. Husted

Chemicals Co., a division of Union Carbide Corp., New York, was announced recently. Since 1958, Mr. Husted has been sales manager — "Ucon" propellants. He is succeeded in that post by Thomas M. Hartley.

Mr. Husted joined Union Carbide Chemicals Company in 1945. For five years he served as a technical representative selling synthetic organic chemicals to the plastics, paint and lacquer, textile specialties, and petroleum industries. Mr. Husted is a member of

Thomas M. Hartley

the Chemical Specialties Manufacturers Association.

Mr. Hartley has been sales manager—"Ucon" refrigerants, for the past two years. From 1952 to 1958, he was associated with Linde Company, a division of Union Carbide Corp., where he served as sales representative in New Jersey, St. Louis and Chicago.

—★—

## New Type Aerosol Valve

Versatility, trouble free operation, and low price are claimed for a new aerosol valve due to go into mass production in France by next April or May. S.A.F.C.A., 7, Rue du Louvre, Paris (1er), announced development of a valve body consisting of only three parts —reservoir, diaphragm and stem— plus dip tube and regulating push button. All components are made of polyamide plastic and their proportions are fixed. The valve is capable of dispensing a wide range of formulations and propellants at the full range of usual spray rates and in all spray patterns, Safca claims. Variations are accomplished by modification of the regulating button only. The Safca valve dispenses with the conventional one inch cup, is crimped straight unto the container.

Due to the small number of components and simplicity of their design the valve readily lends itself to low cost mass production and assembly methods, according to the manufacturer.

Adaptable to pressure as well as cold filling operations, the valve is claimed to be suitable for all types of containers including purse types. The Safca valve may be crimped onto the usual one inch metal container by means of a conventional crimping head. For installation on a tinplate or aluminum container featuring the "Safca neck" a special crimping head is necessary.

Elimination of the cup and design of a special container neck which will accommodate the valve directly has cut cost and improved looks of units, according to Safca.

## Du Pont Advances Six

The "Freon" Products Division of E. I. du Pont de Nemours & Co., Wilmington, Del., recently named six members of its staff to the newly-created position of technical associate—Frank W. Blodgett, Ralph C. Downing, Fred S. Palmer, B. J. Eiseman, Jr., Robert B. Ramsey, Jr., and Paul A. Sanders.

Frank Blodgett

Fred S. Palmer

Ralph C. Downing

Title of technical associate is awarded to scientists who have achieved recognition as experts in their fields of applied research and who have contributed significantly to the work of the "Freon" Products Division.

With du Pont since 1958, Dr. Blodgett has done extensive research on fluorocarbon aerosol propellants, especially in the food field. He has been active in the Aerosol Division of Chemical Specialties Manufacturers Association.

Dr. Downing joined the firm in 1941 as a research chemist at the Jackson Laboratory, Deepwater Point, N. J. In 1948 he was assigned to the "Freon" products technical sales service section. Dr. Downing has contributed to the literature on fluorine chemistry, refrigeration and aerosol propellants.

Associated with E. I. du Pont de Nemours & Company for more than 25 years, Dr. Palmer has authored numerous technical papers on aerosol subjects and fire extinguishing agents.

Dr. Eiseman joined the firm in 1941 as a chemist, and has been concerned predominantly with fluorocarbon compounds.

Mr. Ramsey started with the company in 1942 as a field engineer at the Baltimore, Md., pigment plant. He was assigned to the Jackson Laboratory in 1948 and shortly thereafter joined the staff of the "Freon" Products Laboratory.

With du Pont since 1940, Dr. Sanders' initial research led to a number of patents in the field of fluorescent whitening agents. Since 1953 he has been engaged in aerosol research and has published technical papers on aerosol formulations.

B. J. Eiseman, Jr.

R. B. Ramsey, Jr.

Paul A. Sanders

# contract filling / private label guide


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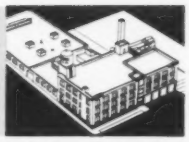

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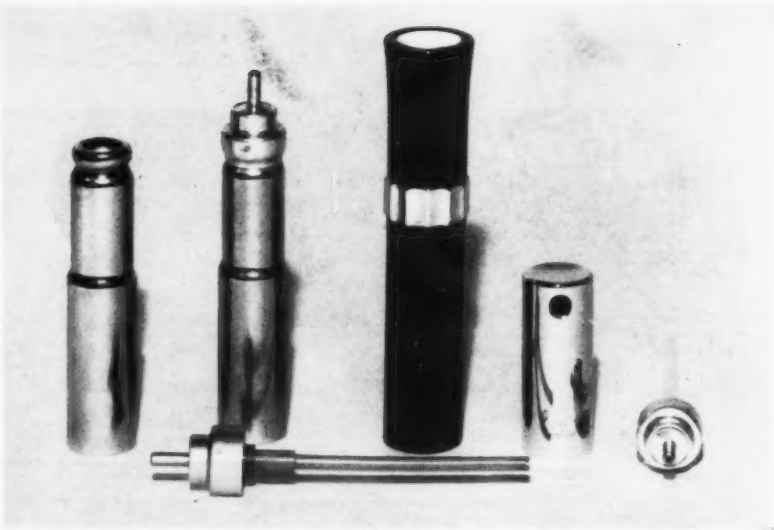

A "slim line look" in aerosol purse perfumes recently was introduced as a cooperative project of Bridgeport Metal Goods and VCA, Inc., both Bridgeport, Conn. A patented refillable outer container by Bridgeport Metal Goods takes a stainless steel cartridge and 13mm. B18F 40 mg. metered valve by VCA. Dip tube, incorporated in molded plastic body construction of valve, eliminates any possibility of it falling or sealing off. Double step construction of the 11cc inner cartridge allows room for the actuator to function. Lower section has been made with a larger diameter in order to obtain the 11cc volume without over elongation of the package. The three vertical lances on the outer edge of the actuator cap engage the beaded section of the body shell so that the cartridge and actuator will not fall out of the case. They also act as a guide for easy refilling. Outer aluminum and brass case will be offered in many designs and colors.

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## Allied Chem. Ups Menkes

Frederick A. Menkes has been appointed superintendent of the Elizabeth, N. J. works of Allied Chemical's (New York) General Chemical Division it was announced recently by J. Steele Brown, vice-president. He succeeds Francis H. Anderson who has been named superintendent of General's El Segundo works located in the Los Angeles, Calif., area. The company plans to build a new plant at the Elizabeth site, to produce its "Genetron" line of fluorinated hydrocarbon propellants.

Mr. Menkes joined the division 14 years ago at its Claymont, Del., works and subsequently served as plant engineer and assistant superintendent at plants in Buffalo, N. Y. and Marcus Hook, Pa.

Most recently he was maintenance superintendent at the Metropolis, Ill. plant producing the basic atomic raw material, uranium hexafluoride, for the Atomic Energy Commission.

# aerosol patents

**No. 2,962,196. Pressurized Package,** patented by John E. Ayres, Mountainside, N. J., assignor to Oil Equipment Laboratories, Inc., Elizabeth, N. J. Patented is a package for dispensing a commodity from a container under pressure from a vapor through a valve-controlled opening in the container, which comprises, a container having a valve-controlled opening therein and containing a supply of a commodity, a coupling member having an opening therein communicating with the valve-controlled opening in the container and a pair of tubular members connected to the coupling member at their upper end, said tubular members being arranged in spaced relation to each other with one member inside of the other member and being sealed together at their lower ends to form a separate chamber in the container for receiving a supply of a propellant of the liquid-vapor type in liquid form, at least one of said tubular members being formed from a material which is permeable to vapor from the supply of liquid propellant, said inner tubular member also forming a passageway communicating with the opening in the coupling member and the bottom of the container.

**No. 2,955,983. Liquid Antiperspirant Composition,** patented by Ralph Paul Messina, assignor to Colgate-Palmolive Co., New York. Covered is an antiperspirant liquid composition particularly suitable for use as an antiperspirant spray comprising alumirum chlorhydrate, perfume, a water-soluble surface-active agent and an organopolysiloxane in an aqueous medium, said organopolysiloxane being in an amount sufficient to modify the spray characteristics.

**No. 2,958,170. Apparatus for Filling and Closing Aerosol Type Dispensers,** patented by Carl H. Mayer, Jr., Wilmette, Ill., assignor, by mesne assignmens, to the Kartridg Pak Co., Chicago. In an apparatus for pressurizing and closing aerosol dispenser containers presented with a cup-shaped closure top loosely assembled in the filling opening of the container, the patent claims a head having a chamber opening from one end and dimensioned to receive the upper end of the container, a sealing ring encircling the open end of the chamber engageable with the container to form a gas tight seal around the filling opening of the container, a tubular transfer member reciprocable in said chamber, a sealing ring carried on the end of said member engageable with the closure top to form a gas tight seal around the marginal edge of the top, an expansible crimping die disposed within said tubular member and projecting therefrom into the interior of the closure top when said member is in sealing engagement with the top, means for expanding said die to frictionally grip the closure top, and means for retracting said member and said die as a unit to withdraw the closure top from the container while maintaining the seals around the container and the closure top intact.

**No. 2.961.131. Aerosol Bomb Having Safety Means,** patented by James W. Bradbury, 220 N. Greenmount Avenue, Springfield, O. Described is the combiration, in an aerosol bomb structure, of a container and a dished cover for the container closing and sealing the container, said dished cover having filling valve means and outlet valve means, said filler valve means comprising an orifice in the base portion of the cover and below the upper extremity of the outlet valve means, a closure for the orifice in the form of an apron which is flexible, gas impervious and resilient but which is penetrable to pass gas therethrough, and said outlet valve means depending below the cover and supporting said closure beneath the orifice.

★

## Sunbeam Jumbo Overcap

The addition of a new "jumbo" cap to its proprietary line of aerosol overcaps was announced recently by Sunbeam Plastics Corp., Evansville, Ind. The new cap, designated No. 353, molded in impact polystyrene, is designed for 16 ounce aerosol containers, which are being more widely used. The new cap, with "Tripl-Lok" feature used on other styles in the Sunbeam line, also has a raised pricing dot which provides additional valve clearance for high valves.

The raised center section lends itself to decorative treatment by hot stamping, silk screen, or painting.

The raised dot is built into mold as a removable insert. This makes it possible to create individual caps with product or brand identification embossed in this area at nominal cost, which is less than that of a complete mold.

Stocked in black and white, cap is available in variety of colors. Pricing information and samples may be obtained from Sunbeam at 7401 Indianapolis Road, Evansville, Ind.


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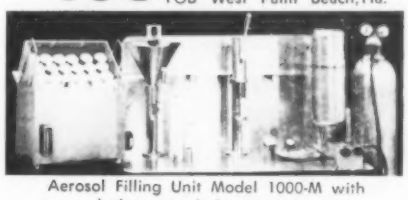
model 1000-m, including: gasser, filler, crimper, pressure tester, support rack and shelf ....$397.50 FOB West Palm Beach, Fla.



Aerosol Filling Unit Model 1000-M with leak test tank & accessories

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| Scale | 22.50 | Propellant Rack (holds five cyls.) | 225.00 |
| Can Crimper (manual) | $159.50 | 25 lb. | |

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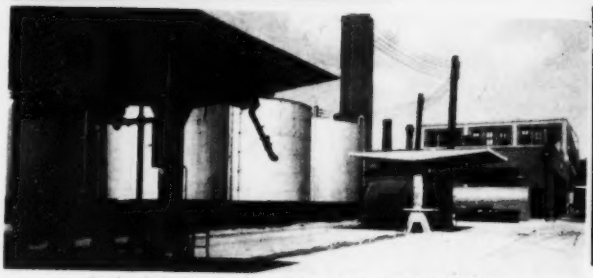

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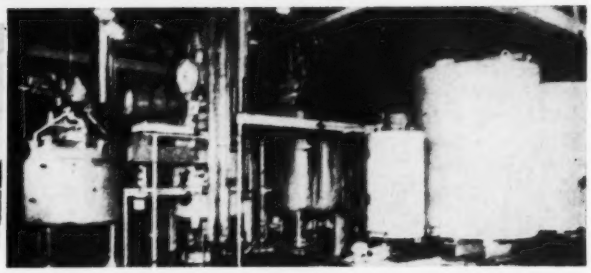

Modern equipment assures product consistency and uniform high quality.

## Krystall stands ready to meet your detergent requirements

When it comes to filling your detergent requirements you can depend on the Krystall Chemical Co. With our efficient plant and modern laboratory plus an excellent technical staff we are ready and able to handle your surfactant needs.

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# Production...

## EQUIPMENT · MATERIALS · PROCESSING


**Surfactants by Novel Sulfonation**

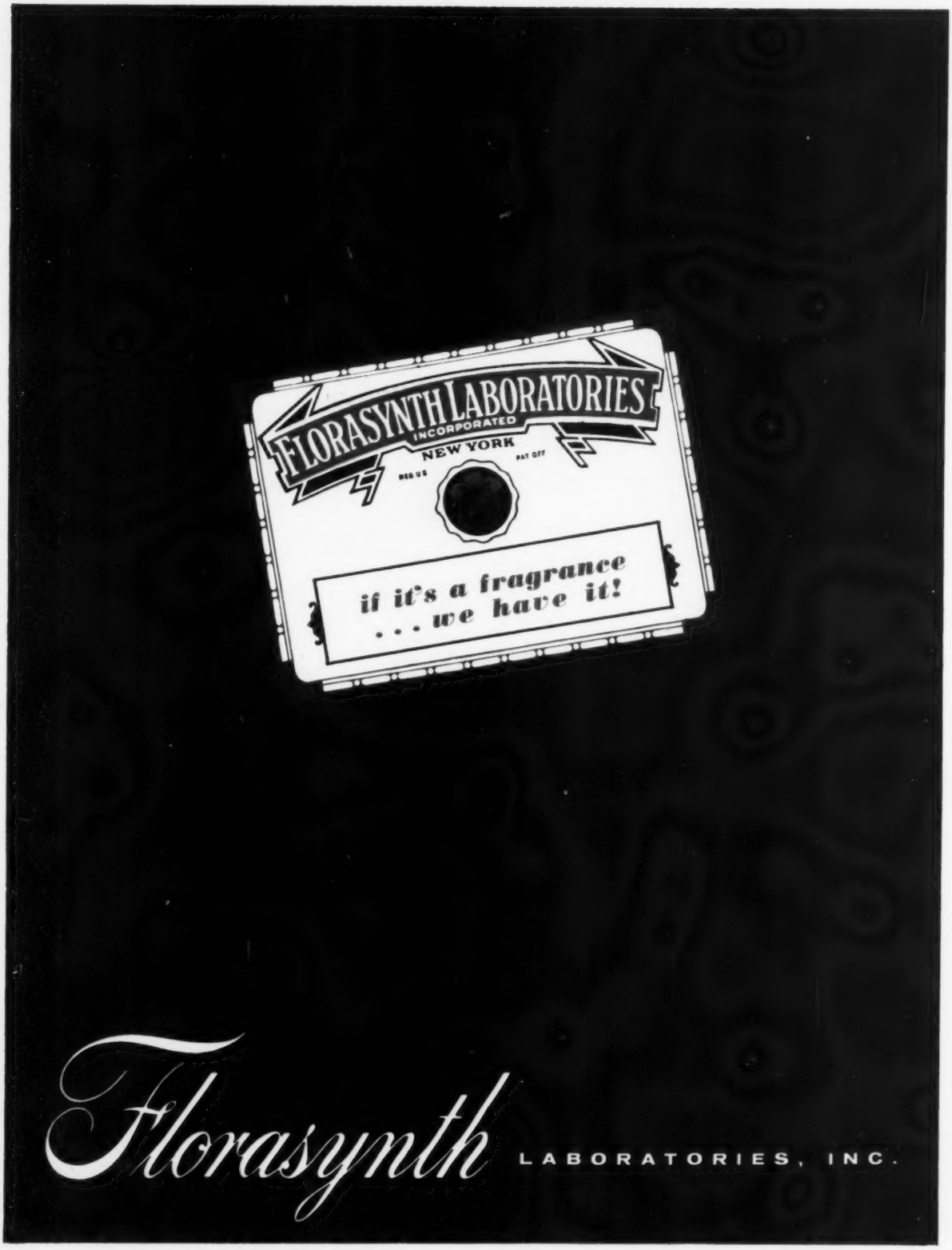
**Soap Plant Observer**

**New Patents**

**Products and Processes**

**Bulletins and Equipment**

First commercial detergent plant to use converter gas sulfonation based on accurately dosed sulfur to process alkyl benzene. Process is installed at plant of Zohar Soap & Detergent Factory in Dalia, Israel. Shown here is production shed topped by $SO_3$-radiation cooler and upper part of converter. See article page 153.

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# Surfactants by Novel Sulfonation

**By A. Davidsohn,***
Consultant,
Haifa, Israel

SULFONATION of alkylbenzene with $SO_3$ is best accomplished with a gas mixture, wherein the $SO_3$ content in the dry carrier gas does not exceed 10 per cent. This gas mixture is usually obtained by passing dry air through heated liquid $SO_3$. Amount and composition of the $SO_3$-gas mixture is determined by the quantity of air passed through the $SO_3$ and by the temperature of the $SO_3$ through which the air passes.

Generally, the amount of air is measured by a rotameter and a silica gel air drier is used to dry it. Elimination of all moisture from the carrier air is essential to prevent acid fume formation from the sulfur trioxide and transformation of the liquid $SO_3$ into the high melting solid form. Furthermore, such acid fumes would make exact control of sulfonation difficult if not impossible.

Success of the sulfonation itself depends largely on the exact amount of $SO_3$ used for the process. Too much $SO_3$ leads to darkening and high acidity in the acid sulfonate, too little results in an excessive percentage of unsulfonated matter.

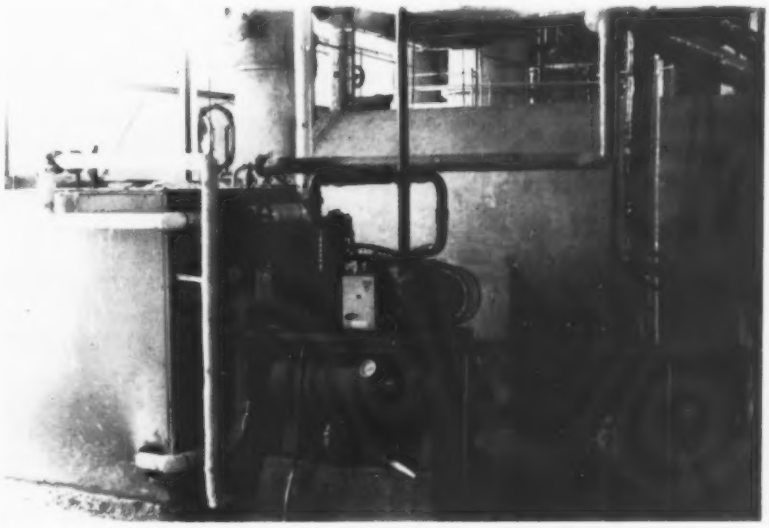
Plant scale sulfonation with sulfur trioxide gas obtained from liquid $SO_3$ requires the following minimum installation: Air drying unit featuring device for exact measurement of air; $SO_3$ dosing and feeding unit; $SO_3$ heating unit through which dried air passes; and the actual sulfonation unit. In addition to these bare essentials, the installation must incorporate special storage tanks for liquid $SO_3$. These must be well protected against humidity, since even mere traces of water cause formation of high melting solid $SO_3$ (M. P. 60° C.). The vessels must constantly be kept at temperatures above the melting point of liquid $SO_3$, i.e. above 16° C. Pipes carrying liquid $SO_3$ must of course be maintained at the same temperature and equally well protected against moisture. Solidification of $SO_3$ in the pipes would obviously cause a difficult situation.

$SO_3$ in its undiluted form, is extremely reactive and dangerous. Contact with water and especially with organic materials, e.g. lubricating oil, may lead to violent explosive reactions endangering personnel and plant. Some firms wishing to sulfonate with $SO_3$ gas, but aware of the dangers and difficulties involved in handling liquid $SO_3$, have tried to obtain the gas from 60% $SO_3$ oleum, by distilling it off in a stream of dry air or by other methods.

### Converter Gas Method

A cheaper and simpler way was sought enabling one to enjoy the many advantages of $SO_3$-sulfonated alkyl benzene, without having to obtain it from the expensive and dangerous liquid $SO_3$ or from 60% $SO_3$ oleum. Neither liquid $SO_3$ nor 60% oleum may be available, as is the case in Israel. Experiments are being carried out, to sulfonate alkyl benzene directly with converter gas (containing about 7-9% $SO_3$) from sulfuric acid plants. This method is currently being tried in the U. S., England, Russia, Sweden and very likely also in other countries.

**Figure 2. Sulfur melting pot, dosing pump and sulfur burner.**



*Paper read during third International Congress on Surface Activity, Cologne, Germany, Sept. 1960.

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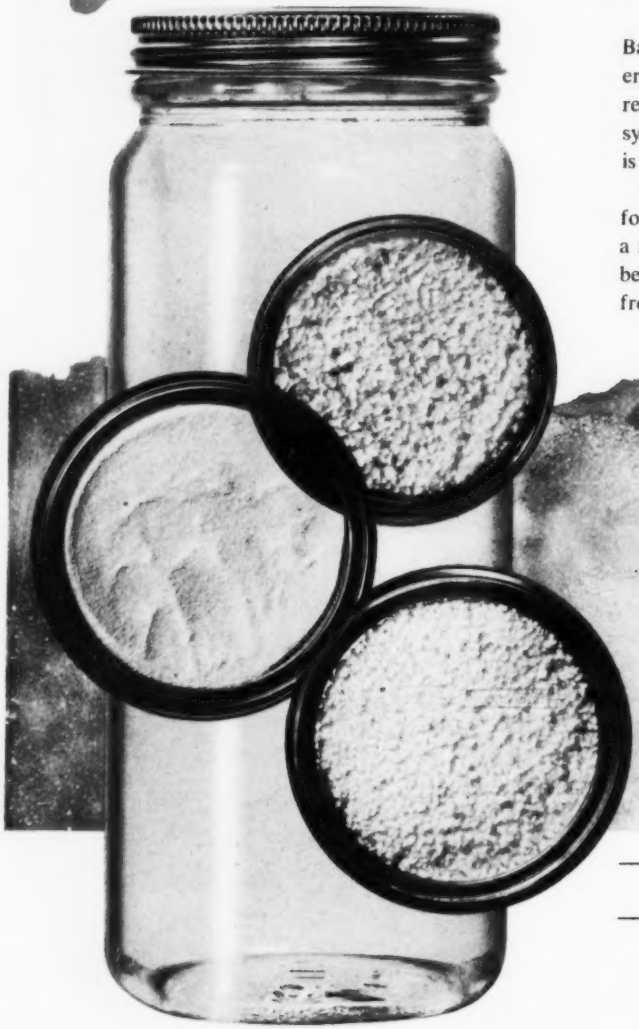
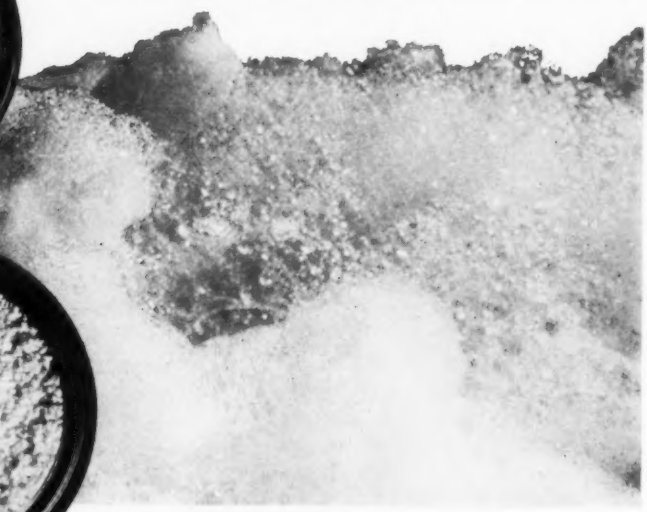
Don't overlook the opportunity to get optimum performance for your detergents and cleaning compounds at a minimum cost with the right silicate content. To get the best results in each case we shall be glad to discuss evidence from studies now being made at our research laboratories.





**PQ SILICATES USED IN DETERGENT FORMULATIONS**

| NAME | % RATIO $\%Na_2O:\%SiO_2$ | $\%Na_2O$ | $\%SiO_2$ | BAUME 68°F. |
|---|---|---|---|---|
| N | 1:3.22 | 8.90 | 28.7 | 41.0° |
| STAR | 1:2.50 | 10.60 | 26.5 | 42.0° |
| RU | 1:2.40 | 13.85 | 33.2 | 52° |
| C | 1:2.00 | 18.0 | 36.0 | 59.3° |
| SS-C PWD | 1:2.0 | 32.70 | 65.4 | Anhydrous Powder |
| METSO GRANULAR | 1:1* | 29.50 | 28.7 | Pentahydrate Metasilicate |
| METSO ANHYDROUS | 1:1* | 51.00 | 46.5 | Anhydrous Metasilicate |
| | $\%K_2O:\%SiO_2$ | $\%K_2O$ | $\%SiO_2$ | |
| KASIL #1 | 1:2.50 | 8.30 | 20.8 | 29.8° |
| KASIL #6 | 1:2.20 | 9.05 | 19.9 | 30.0° |

*Molecular Ratio

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**PQ PLANTS:** ANDERSON, IND.; BALTIMORE, MD.; BUFFALO, N. Y.; CHESTER, PA.; JEFFERSONVILLE, IND.; KANSAS CITY, KANS.; RAHWAY, N.J.; ST. LOUIS, MO.; UTICA, ILL.

Disadvantage of such a procedure involving the splitting off of a converter gas stream from a large converter plant is evident. First the detergent plant must be near to and dependent on the sulfuric acid plant. Secondly, it is very difficult, if not impossible, to measure the amount of converter gas split from the main gas stream with a sufficient degree of accuracy to yield good sulfonation results. The Russians have developed a method whereby sulfonation by converter gas is carried only to about 80% of completion. Presumably the problem of exact measurement is the reason for this limitation.

In the United States major producers of alkyl benzene have issued directions for sulfonation of their product with converter gas. However, to the author's best knowledge no practical process has so far emerged. It is always possible that an individual firm may have discovered the answer to the problem and is keeping it as a trade secret. Even in that case, however, there is still the question that a detergent plant using this process would have to be linked both physically and commercially to the sulfuric acid plant.

### *Special Converter Plant*

To overcome the problems presented by converter gas sulfonation a special sulfur burning and converter plant has been designed. The entire gas stream from this installation is used for sulfonation. Basic idea of this patented (1) process is indirect measurement of $SO_3$ used for sulfonation by directly measuring the amount of sulfur used to produce the gas. Prerequisite for success by this method is the burning of high purity sulfur, such as Texas (99.5%) sulfur or, better still, gas sulfur of 99.98% purity such as the French sulfur currently being sold in Europe. In this process a dosing pump measures the molten sulfur and pumps it into a small sulfur burner. The air used for burning the sulfur to $SO_3$ is dried by a silica gel drying unit, bringing the humidity of the air down to a maximum of 0.5 g/cbm air. The $SO_3$ gas stream leaving the converter contains 7-8% $SO_3$ and is cooled in a special heat exchange unit to about 50-60° C. (The gas leaves the converter at a temperature exceeding 400° C.). Heat given up in the heat exchanger may be used to regenerate the silica gel drier.

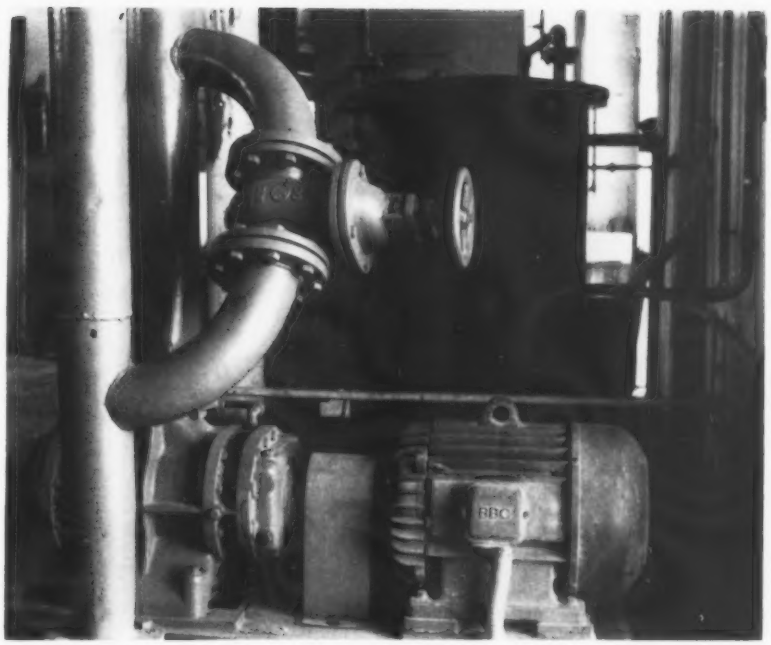


**Fig. 3. Air blower used in patented sulfur burning and converter plant.**

At the usual conversion rate achieved by such units (generally 95-97% conversion rate $SO_2/SO_3$) each kilo of sulfur burnt yields 2.4 kilos $SO_3$. Sulfonation with converter gas offers an additional advantage over liquid $SO_3$ derived sulfur trioxide gas, namely lower oxygen content in the carrier gas. Half the oxygen present in the air is used for transformation of the sulfur to $SO_3$. The relatively small percentage of oxygen in the $SO_3$ gas stream does not cause the unpleasant oxidation side effect so often encountered where air is used as carrier gas for vaporized $SO_3$.

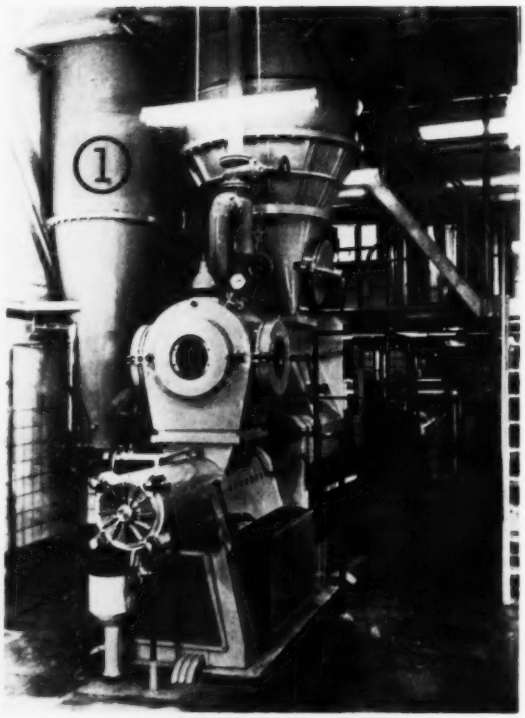
The process can be modified to lower the conversion rate to around 85%. The gas sulfonating stream would contain a surplus of $SO_2$ as reducing agent and would yield even lighter colored AB-sulfonates than is the case at normal conversion rates. The modified conversion rate must, of course, be kept constant and a scrubber must be installed for scrubbing the "tail gas" leaving the sulfonation set-up. The scrubbing medium is suitably diluted caustic soda, which is transformed into sodium bisulfite as a byproduct.

Even at the normal conversion rate of 95% and with only a fraction of a per cent of $SO_2$ in the gas stream, a very positive "deodorisation effect" is obtained in this sulfonation process, as all traces of volatile odor forming substances are carried into the exhaust by the carrier gas stream. Indeed, AB-sulfonates obtained are practically free from odor, a definite advantage over products of conventional-acid sulfonation.

To process 100 kilos of alkyl benzene by acid sulfonation of liquid $SO_3$ sulfonation 150 to 160 kilos monohydrate, or 105 to 110 kilos oleum (20-23% $SO_3$) or 36 kilos liquid $SO_3$ are required. By comparison, sulfonation of 100 kilos alkyl benzene by the process described above requires 14 to 16

(*Continued on Page* 189)

# G. MAZZONI, S. P. A.

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**They are extremely flexible:** The same plant also can manufacture pure or built household soaps, flake and powder dried base, etc. from 35 to 84% T.F.A. and more.

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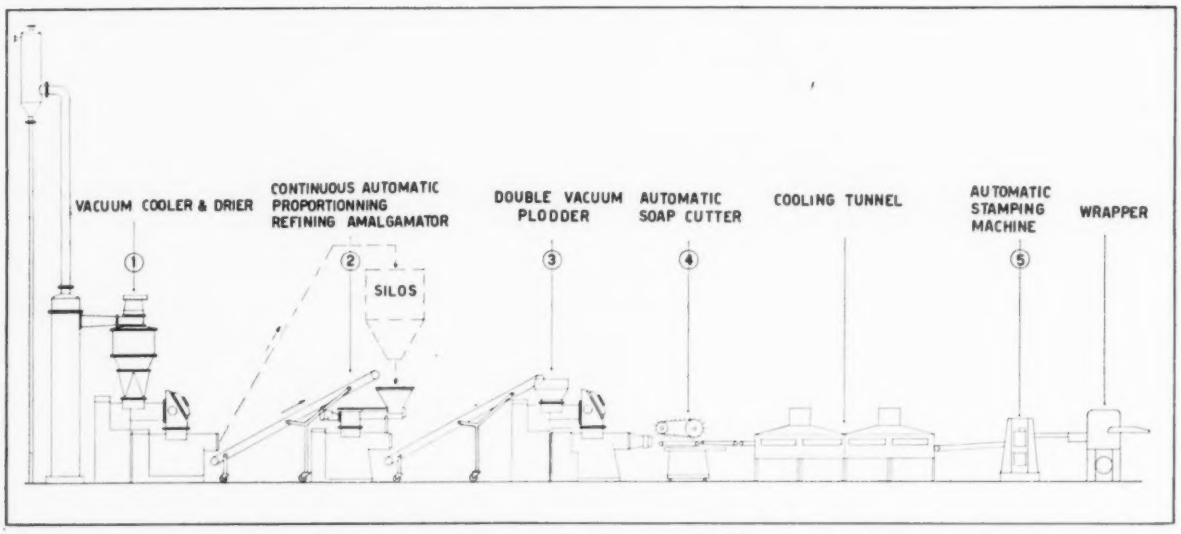


Layout of our continuous toilet soap line. Fully continuous or batch processing possible using chips silos. Our line automatically produces fully refined, first class toilet soap with no roll mills. The individual machines that are employed in the above sketch appear on this and the facing page. A complete line or individual units are available with production capacities of 250 to 1500 Kgs. per hour.

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**Units shown on this page are available individually. They appear as numbered in production line diagram on facing page.**

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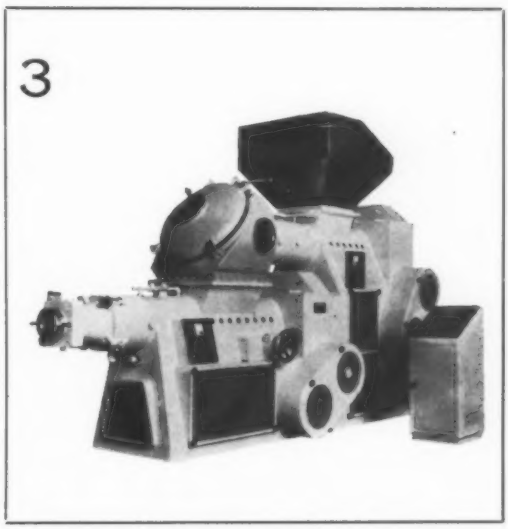


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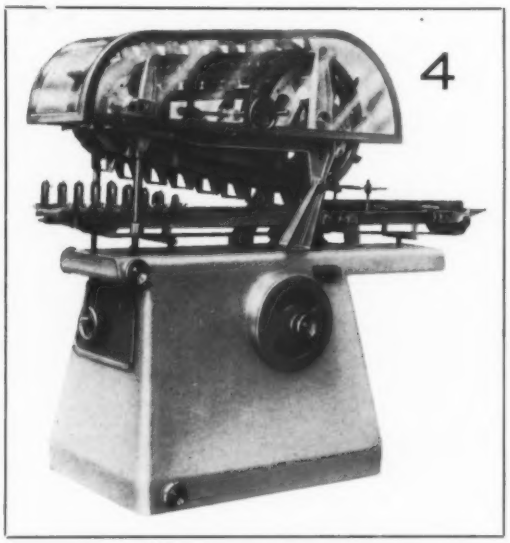


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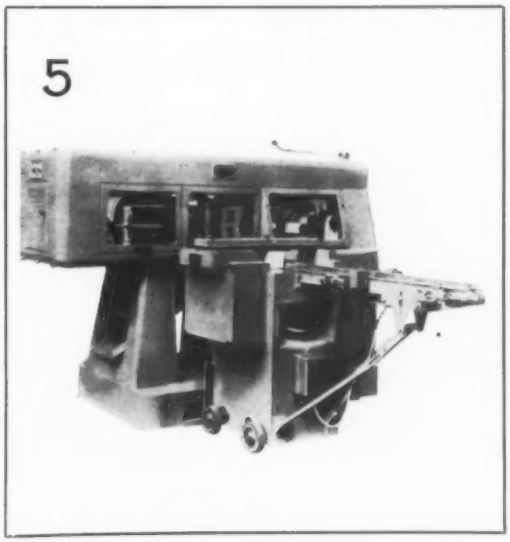
Adjustable cutting length by means of handwheel

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Type "St-S" stamping speed up to 125 per minute.
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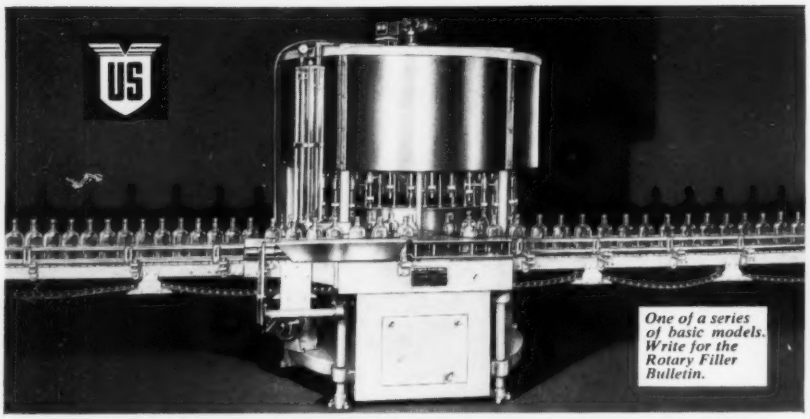
**Your inquiry is welcomed! We send, without obligation, data sheets and other literature on this equipment. Let our staff solve your manufacturing problems! We want you to get the most from your raw materials!**

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# soap plant observer

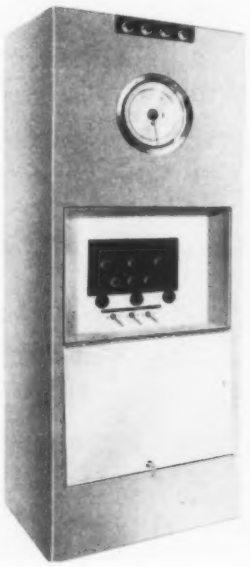
**By Willis J. Beach**
Technical Service Department,
Sugar Beet Products Co.

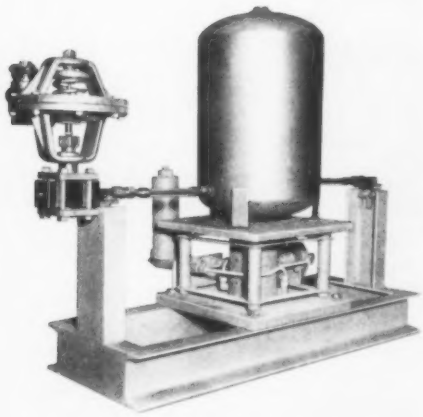
A NEW, continuous, in-process specific gravity measuring system is now available for use with liquids, slurries, emulsions, whips and creams. Its output signals can be used for indications, recording and control. Based on weight measurement of a constant volume, the system recently offered by Weighing and Controls, Inc., Hatboro, Pa., employs a stainless steel tank for continuous weighing of the constant volume. A flexure-mounted pneumatic weight transmitter is coupled to the tank and it offers an essentially stepless signal output in the three to 15 psi or five to 40 psi ranges read on a scale calibrated to 0.1 per cent.

Volume is kept constant by one of two methods. If the material contains air, a probe and an air vent valve maintain the liquid level by venting the top of the tank, permitting a closed pressurized system. For liquids free from entrained or dissolved air a simple open-top overflow tank is employed. In either design suspended materials can be prevented from settling out of the liquid by the use of baffles to introduce turbulence or by the use of a small mixer clamped to the tank.

The system is claimed to be accurate to better than 0.25 per cent overall and offers one part in 2,000 reproducibility.

**Fig. 1. New continuous in process specific gravity measuring system by Weighing and Controls, Inc., Hatboro. Pa. Right: Constant volume tank coupled to pneumatic weight transmitter. Left: Dial and control panel.**





### *New Jet Pumps*

A new line of jet pumps having no moving parts to wear out and making use of the venturi effect has come to our attention. The pumps, by Allen Aircraft Products, Inc., Ravenna, O., offer high volume output by action of a small, high-pressure input. The pumps, capable of handling gases or liquids, will undoubtedly be useful in the chemical specialties field for such tasks as transferring abrasive fluids or mixing chemicals or reacting gases or liquids.

A small line of high-pressure fluid or gas pumped through the jet induces the surrounding material to move a larger overall volume at lower pressure. These jet pumps can work on high pressure fluid discharged back to a tank from relief valves in hydraulic or pumping systems. The jet pump then becomes a nonpowered pump used to supply other lines or move fluids between tanks, without need of electrical or other power. By

**Fig. 2. Jet pumps by Allen Aircraft Products, Inc., Ravenna, O.**

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Efficiency through the broad viscosity range is effected by the advanced design draft tube to permit mixing of varied sized batches, from one third to full 1400 gallon tank capacities (capacities vary with model).

Ejection of charge and cleaning of bottom is accomplished by sweep paddle at inner base of Crutcher.

Houchin Crutchers can be furnished with tanks of black iron, or with inside surfaces of stainless steel, with various types of screw or mixing blades. Tanks can be jacketed for heating or cooling. Write for full details today.

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*For Descriptive Literature and Prices on any of the above write*

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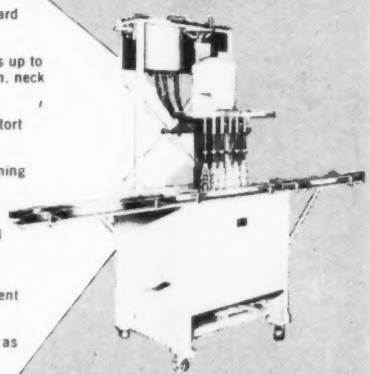
# NEW! ERTEL GRAVITY FILLER
## MODEL EGR

***Features:***

1. Fills cans, plastic bottles and other standard containers
2. Will fill all containers up to 1 gal. capacity with min. neck openings of 7/16"
3. Won't collapse or distort containers
4. Better for filling foaming liquids
5. Parts in contact with liquid are stainless steel
6. Dripproof spouts
7. Lower initial investment and operating cost
8. Can also be supplied as conveyorized unit



**Simplicity of spout design enables quick dismantling and cleaning. Ertel specially designed spouts are known for their special seal and dripproof features. A unique arrangement provides for easy horizontal and vertical change over. Unit is foot pedal operated.**

**ERTEL ENGINEERING CORP.**
KINGSTON 6, NEW YORK
*Mfrs. of Filters, Filter Sheets, Vacuum Bottle Fillers, Pumps, Mixers*

**Write for BULLETIN EGR** *for full description*

use of a small amount of fluid supplied to the jet pump from a small high-pressure pump, a much larger flow at reduced pressure can be induced. Such application lowers operating costs and provides savings in weight and space.

Jet pumps, both standard and special models, are available in various materials of construction and in a wide range of capacities. A typical performance figure is the discharge of 3.5 gpm against a 32-inch head, utilizing a 1.29 gpm, 20 psig input flow. Standard discharge capacities range up to 50 gpm.

### *Gun for Rockwell Valves*

For those who have a fairly extensive outlay of Rockwell-Nordstrom valves, a new lightweight portable air-operated lubricating gun was recently announced by the Rockwell Manufacturing Co., Pittsburgh.

Designed especially to meet the needs of field and plant maintenance valve users, the mobile Rockwell "Hypregun" weighs only 53 pounds, including accessories, and has a 100:1 pressure ratio and double action piston.

The gun should be quite useful in larger plants employing outside installations of process and transfer piping and oil storage. Continued positive pressure applied to the side cylinders of this gun offers intimate contact between follower plate and lubricant. This feature is claimed to result in successful pumping at low temperatures. The amount of lubricant delivered depends, of course, on air pressure available to the gun, type of lubricant and ambient temperature. For descriptive information, including ranges of lubricant delivery under varying conditions, request Rockwell's "Hypregun" Bulletin V-601, Rev. 2.

### *Navy Asks for New Spec*

The Department of the Navy (Bureau of Ships) has recently asked industry to come up with a single performance specification for an all-purpose detergent for cleaning walls, floors, painted or coated surfaces, steel decks, machinery, vitreous surfaces, etc. The cleaner is to remove greases, oils and grimy dirt without deleterious effects to the ferrous, copper alloy, aluminum and other coated surfaces being cleaned.

The three specifications to be replaced are: Federal P-C-431a (Sept. 14, 1954), for synthetic detergent, non-abrasive, all purpose cleaner; MIL-C-20207 C (July 1, 1955) for a heavy duty grease removing solvent cleaner; and MIL-D-16791 C (Aug. 21, 1956) for a nonionic detergent. The first cleaner is expected to be used on painted surfaces, linoleum, asphalt and rubber tile flooring. The second specification calls for performance attributable to a heavy-duty degreasing compound, involving removal of asphalt baked on metal test panels.

To come up with a single product that will remove this asphalt and also be acceptable for use on linoleum and asphalt and rubber tile will present an interesting problem to the industry.

—★—

### Acetylene Chemicals Data

"High Pressure Acetylene Derivatives" is the title of a six page folder just published by Antara Chemicals, a Division of General Aniline & Film Corp., 435 Hudson Street, New York 14.

Polymeric materials covered include polyvinylpyrrolidone, vinylpyrrolidone/vinyl acetate copolymers, and PVP combined with iodine. Detergent formulation, hair sprays, shampoos, polishes, waxes, and agricultural chemicals are among the numerous actual and potential uses of PVP. PVP/VA copolymers act as viscosity stabilizers and soil suspending agents in formulated detergents. Among other important applications are hair sprays, shampoos, wave sets, etc.

PVP-iodine contains 10 per cent active halogen, is water-soluble, and claimed to be non-irritating, nonstaining, and nontoxic.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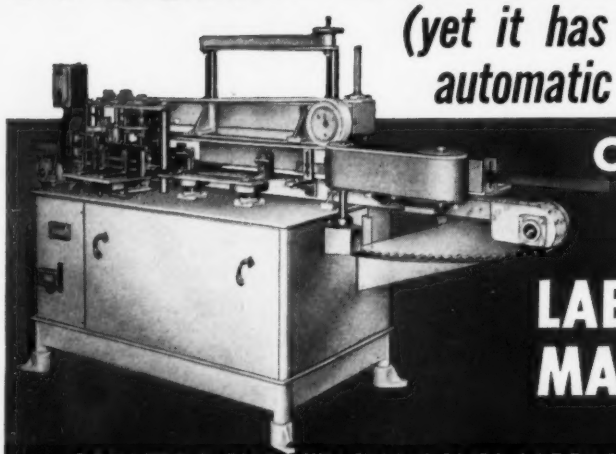
# A FULLY AUTOMATIC LABELER

*(yet it has less parts than any semi-automatic machine on the market)*



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*Fully Automatic*
## LABELING MACHINE

GREATER FLEXIBILITY THAN EVER BEFORE POSSIBLE

**PRODUCTION** variable speed drive from 40 to 150 per minute.

**LABEL RANGE** "postage stamps" to 6" wide by 7" long.

**LABEL MATERIALS** foil, paper, plastic, etc.

**CHANGEOVER TIME** approximately 15 minutes

**CONTAINER RANGE** 1½" high by 1" diameter through 14" high by 7" diameter. Practically any shape.

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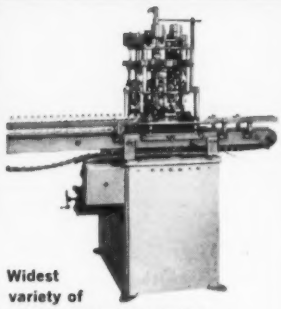

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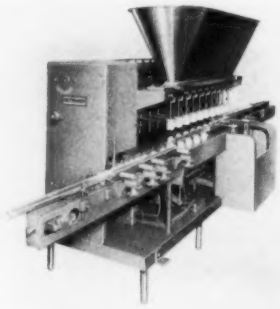

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**EXTENSIONS**—Straight and curved extensions in choice of lengths from 8" to 48".

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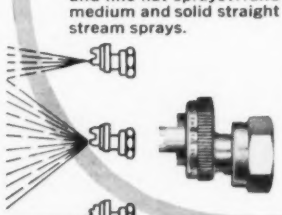

**ADJUSTABLE CONEJET TIPS**

Tip rotates for spray selection from fine solid stream...to wide angle, finely atomized cone spray.

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**SPRAYING SYSTEMS CO.**
**3217 RANDOLPH STREET**
**BELLWOOD, ILLINOIS**

# new patents

Listed below are brief abstracts of recently issued patents. Complete copies may be obtained from the publisher of this magazine: — MacNair-Dorland Co., 254 W. 31st Street, New York 1, N. Y. Remit 50¢ for each copy. For orders received from outside of the United States send $1.00 per copy.

**No. 2,948,654. Insecticidal Composition Comprising Sesoxane and Methoxychlor,** patented by Homer E. Fairchild, assignor to E. I. du Pont de Nemours & Co., Wilmington, Del. Covered is an insecticidal composition comprising a mixture of "Sesoxane" and methoxychlor.

**No. 2,950,254. Method of Producing a Pearly Luster in Shampoo Concentrates,** patented by Guenter Meinhard and Wolfgang Benzel, Dusseldorf, assignors to Dehydag, Deutsche Hydrierwerke G.m.b.H., Duesseldorf, Germany. Revealed is a method of producing a pearly luster in an aqueous shampoo concentrate composed essentially of an anionic detergent dissolved in an aqueous medium, which comprises heating said shampoo concentrate to a temperature between substantially room temperature and about 80° C., dispersing in said heated shampoo concentrate between about 2 and 10% by weight, based on the weight of the shampoo concentrate, of a high-molecular-weight organic monocarboxylic acid and a substantially equimolar amount, with respect to said high-molecular-weight organic monocarboxylic acid, of a water-soluble salt of a metal selected from the group consisting of magnesium and zinc, and adding an alkaline agent to the resulting dispersion until the pH of said dispersion is between about 6.5 and about 7.0.

**No. 2,950,255. Detergent Composition,** patented by Stillman R. Goff, Park Ridge, Ill., assignor to Gillette Co., Chicago. This invention covers a shampoo composition capable of effective cleansing of hair while simultaneously imparting good condition thereto comprising a mixture of surface active agents consisting of (A) a major proportion of a member of the class consisting of ampholytic surface active agents, and mixtures thereof with up to an equal weight of non-ionic surface active agents and (B) a minor proportion of a mixture of a cationic surface active agent with a substantially equimolar proportion of an anionic non-soap surface active agent, the ratio of (A) to (B) being from 2:1 to 20:1 by weight.

**No. 2,951,787. Quaternary Ammonium Bactericides,** patented by Joseph C. Lo Cicero, Moorestown, N. J., and Chien-Pen Lo and Andrew B. Law, Philadelphia, assignors to Rohm & Haas Co., Philadelphia. This invention discloses a method for controlling bacteria in aqueous systems which comprises adding to the water a high activity quaternary ammonium bactericide comprising as its essential active ingredients a mixture of from about 20 per cent to about 80 per cent of n-dodecyl dimethyl 2,4-dichlorobenzylammonium chloride and from about 20 per cent to about 80 per cent of at least one member from the class consisting of n-tetradecyl dimethyl 2,4-dichlorobenzylammonium chloride and n-tetradecyl dimethyl benzylammonium chloride.

**No. 2,951,788. Quaternary Ammonium Bactericides,** patented by Chien-Pen Lo., Philadelphia, Joseph Lo Cicero, Moorestown, N. J., and Andrew B. Law, Philadelphia, assignors to Rohm & Haas Co., Philadelphia. Revealed here is a method for controlling bacteria in aqueous systems which comprises adding to the water a high quaternary ammonium bactericide comprising as its essential ingredients a mixture of from about 20 per cent to about 80 per cent of n-dodecyl dimethyl p-chlorobenzylammonium chloride and n-tetradecyl dimethyl benzylammonium chloride.

**No. 2,956,026. Sulfonate Detergent Compositions,** patented by Henry Y. Lew, San Francisco, assignor to California Research Corp., San Francisco. Disclosed is a detergent composition consisting essentially of, by weight, 10 to 40% active organic detergent material and 60 to 90% water-soluble inorganic salt detergent builders, said organic detergent material consisting essentially of, by weight, (*a*) 40 to 50% branched-chain $C_9$—$C_{15}$ monoalkyl benzene sulfonate detergent; (*b*) 5 to 10% of a normal alcohol selected from the group consisting of $C_{14}$–$C_{18}$ primary saturated monohydric alcohols and $C_{14}$–$C_{22}$ alkane, 1,2-glycols; and (*c*) 10 to 50% of a sulfonate characterized by a straight chain $C_{10}$–$C_{24}$ alkyl radical attached to the sulfonic acid group by the terminal carbon, selected from the class consisting of normal alkane sulfonates and the α-carboxy, β-sulfo, β-hydroxy, and β-nitro substituted derivatives thereof.

**No. 2,955,047. Cleaning Compositions,** patented by Daniel H. Terry, Crarford, N. J., assignor to the Bon Ami Co., New York. The patent reveals a liquid cleaning composition for removing dirt and grit from a surface consisting essentially of an oil-in-water emulsion consisting essentially of from 0.1 to 5 percent by weight of a dimethylpolysiloxane oil having a viscosity of from 200 to 350 centistokes at 25°C., from 0.5 to 50 percent by weight of a water-miscible organic solvent for the dimethylpolysiloxane oil, said organic solvent being compatible with the other ingredients of the emulsion, from 0.01 to 1 percent by weight of a water-soluble synthetic surfactant selected from the group consisting of nonionic surfactants and anionic surfactants, and the balance water.

**No. 2,962,448. Detergent Composition,** patented by Vladimir Dvorkovitz, Kansas City, Mo., and Neil W. Berst and George G. Leist, Evanston, Ill., assignors to Diversey Corp., Chicago, Ill. A substantially non-skin irritating nonacid detergent composition is patented, having an additive which reduces the skin irritation that is normally induced by nonacid detergent compositions, said composition consisting essentially of: a synthetic organic detergent from the group consisting of sodium higher alkylbenzene sulfonates and higher alkylphenyl ethers of polyethylene glycol, and at least 0.1% by weight, based on the total solids, of a water-soluble additive which reduces the skin irritation normally induced by said organic detergents, said additive being a member from the group consisting of N-lauroyl sarcosin and water-soluble alkali salts thereof, said synthetic organic detergent being present in said composition in an amount in excess of said additive.

**No. 2,955,905. Peroxide-Ester Bleaching Process and Compositions,** patented by Thomas Daniel Davies, Bebington, George Charlesworth Hampson, Neston Wirral, Francis Robert Maxwell McDonnell, Bebington, and Gert Schmerlaib, Wallasey, England, assignors to Lever Brothers Co., New York. This patent teaches a process of bleaching soiled textile materials comprising the steps of placing the article to be bleached in an aqueous solution of hydrogen peroxide and an organic carboxylic ester having a titre in the per-acid formation test of not less than 1.5 ml. 0.1 N $Na_2S_2O_3$, allowing the article to remain in the solution for a normal washing period and rinsing the article.

**No. 2,955,120. Preservation of Soap Compositions,** patented by Douglas Holness, Orpington, and Bertram James Frank Hudson, Wirral, England, assignors to Lever Brothers Co., New York. Described is a soap composition which contains a small amount of a hydrazone having the general formula

$$RXNH—N=CR_1R_2$$

in which R and $R_1$ are each selected from the class consisting of alkyl, aryl and aralkyl groups, $R_2$ is selected from the class consisting of hydrogen, alkyl, aryl and aralkyl groups, X is selected from the class consisting of —CO— and —SO—, with R containing not more than 20 carbon atoms, and $R_1$ and $R_2$ taken together containing not more than 20 carbon atoms.

# The LEHMANN VORTI-SIV

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This screening machine is unique in that its gyratory action is adjustable both in speed and radius of gyration. When the optimum relationship between these two factors is reached throughputs are multiplied.

In four square feet of floor space, therefore, the Vorti-Siv gives production that would require many times that area in any other type of screening machine. The unit has casters, making it easily movable from one location to another.

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Sada y Himes S.A., Apartado 911, Padre Mier 1250 Pte., Monterrey, N.L., Mexico

See our advertisement in Chemical Engineering Catalog

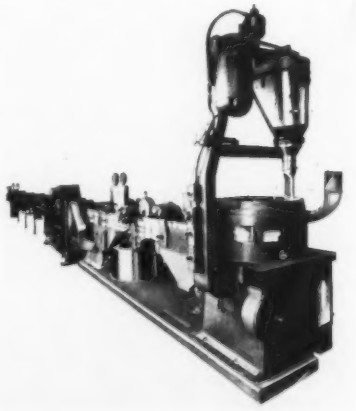

### FMC Fast Carton Filler

A new filling system developed by Food Machinery & Chemical Corp., Philadelphia, for their "Neverstop" line of automatic carton filling and sealing machines, promises higher speeds for many non free flowing powders, granules and dry materials which tend to bridge or pack.

The mechanical screw principle of auger filling is employed. This marks the first time that auger feeding has been utilized at such high speeds, according to F.M.C. Instead of relying upon the product material to fall freely from the supply hopper as with straight volumetric devices, it is driven down by the constantly rotating action of an auger. In addition to increasing speeds, better control over product flow is achieved and early tests are said to indicate greater filling accuracy.

In operation, flat seamed cartons are automatically opened, then bottom sealed. As the cartons enter the filling section of the machine, a series of funnels arranged on the perimeter of the revolving head, fit themselves in the open tops. The knife-like edges of these funnels passing under the auger divide the continuous stream of product into increments depositing an exact fill into each carton. Top flaps are glued and are then folded down.

End opening cartons of practically any type can be handled from small one ounce to three pound sizes with dimensions of 3x2x¾" up to 12¾ x 8¾ x 3¾".



# products and processes

### Paste Silver Polish

A paste form silver cleaning compound is made from the following ingredients:

| | *parts* |
|---|---|
| Oleine | 380 |
| Stearine | 60 |
| Ceresine | 50 |
| Silicone oil | 30 |
| Prepared chalk | 480 |

The first four ingredients are melted together and the finely sieved chalk is worked into the melt until the desired consistency is achieved. Seifen-Oele-Fette-Wachse, 1960, Oct. 26, p. 710.

—★—

### Naphthenates as Detergents

Naphthenic acids in the form of water soluble salts can be made olfactorily more acceptable as ingredients of compounded washing agents, according to British patent 844,018, granted to P. Low-Beer Loba Chemie, Vienna, Austria. This improvement in odor characteristics is accomplished by fractional distillation – preferably under reduced pressure–of the volatile commercial naphthenic acids.

The water soluble naphthenates of these upgraded acids may be mixed with fatty acid soaps in any proportion desired. This procedure is said to further boost detergency of the finished product.

—★—

### New Acrylic Copolymer

A new modified copolymer emulsion designed especially for use in floor polish formulations has just been introduced by Rohm & Haas Co., Philadelphia. "Rhoplex B-83" is claimed to yield clear colorless films which resist discoloration on aging.

In addition to clarity, floor polish formulations based on the new acrylic resin are said to give coatings of good soil resistance, toughness, flexibility, gloss and heel mark resistance.

Samples and pertinent information are available from the Resinous Products Division of Rohm & Haas Co., Philadelphia 5.

—★—

### Shampoo Leaf

A shampoo leaf may be made by coating a sheet of paper of high wet strength with a synthetic detergent which adheres to the sheet without flaking off. Ammonium salts of sulfated fatty alcohols having from 10 to 18 carbon atoms in the molecule are said to be most suitable for this purpose. One or more coatings may be applied. British patent 840,399, 1960, County Laboratories Ltd., London.

—★—

### Importance of H.L.B.

Investigation of relationships between H.L.B. and calcium carbonate dispersing ability of 14 nonionics in aqueous solution showed that medium H.L.B. goes with highest dispersing power. Nonionics having H.L.B. levels between nine and 14 exhibited dispersing ability equal to that of sodium pyrophosphate. Teruo Matsumura and Koichiro Iwaski (Lion Toothpaste Co., Tokyo), *Kogyo Kagaku Zasshi* 63,970-3 (1960).

—★—

### New Hydroxamic Acids

Commercial availability of $C_{16}$ and $C_{18}$ hydroxamic acids was announced last month by Woburn Chemical Corp., Harrison, N. J. Industrial applications of fatty hydroxamic acids include among others surface active agents; detergents; disinfectants; corrosion inhibitors; water repellents; chelating agents.

These materials are interesting chemical intermediates, according to Woburn, because they have a reactive OH and NH group, as well as a long chain fatty group and can react with alkalis, metallic ions and acylating agents.

Samples and data sheets are available to chemists on request.

—★—

### Water Treatment Data

Water clarification by coagulation is the subject of an eight page illustrated booklet just issued by Nalco Chemical Co., 6216 West 66th Place, Chicago 68. Sodium aluminate for low dosage clarification and for softening operations is covered. The use of cationic, anionic and nonionic polymers and a new system of "incline clarification" are covered as well.

—★—

### Lignosulfonates Data

Wood derived dispersing and chelating agents, their properties and applications, are described in a 31 page illustrated brochure just issued by Marathon Division of American Can Co., Menasha, Wis. Marathon's line includes a wide range of lignosulfonates with molecular weights ranging from 1,000 to 20,000.

"Marasperse" dispersants and emulsion stabilizers are derived from the higher molecular fractions, are water soluble, insoluble in oils and organic solvents. Dispersion of solids or liquids in water is their function in a wide range of products, including industrial cleaners and insecticidal formulations.

The "Maracarb" line of chelating agents described in the booklet chelate calcium, copper, iron, manganese, and other ions. Alkaline solutions of these materials are efficient cleaners of glass and metal surfaces according to Marathon. Some members of the series are stabilizers for organic pesticide formulations.

Other Marathon lignosulfonate chemicals are used for boiler water treatment, as bonding agents, in leather tanning, and in a number of other fields.

# Problem: Find the most effective worker in this busy picture

# Answer: Poly-Tergent® Surfactants

This busy family is making fast work of their clean-up chores with a variety of detergent products . . . all of which include the effective detergent and wetting action of Poly-Tergent surfactants from Olin Mathieson. These nonionic surface active agents function effectively as detergents, dispersants, emulsifiers and wetting agents.

Within the Poly-Tergent series you will find nonionics compatible with various acids, alkalies, alkaline salts and quaternary ammonium salts to make them logical additives to detergents, detergent-sanitizers, car washes, acid-base and metal cleaners, dairy cleaners and many more.

Complete technical data on the entire series of Poly-Tergent surfactants is as close as your nearest Olin Mathieson sales office. Or write:

Olin Mathieson Chemical Corp., 745 Fifth Avenue, New York 22

**Olin**
**CHEMICALS DIVISION**

*Poly-Tergent® is a trademark.*

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9020

# News...

**PEOPLE · PRODUCTS · PLANTS**

**Charles B. Solly Dies**

* * *

**Peet Heads N. J. Taxpayers**

* * *

**Lehn & Fink Appoint Nelson**

* * *

**Colson Joins J. B. Williams**

G. Lowell O'Daniel has just been appointed by Lever Brothers Co., New York, to newly created position of assistant vice-president in charge of production. Formerly production manager in the manufacturing division, Mr. O'Daniel is responsible for directing activities of the manufacturing, purchasing and distribution divisions. He has been with Lever Bros. since 1937.

# Morton . . . symbol of leadership in polymer floor polish development

***MORTON LATEX RESEARCH*** . . . A comprehensive continuing research program in the laboratories of Morton Chemical Company brings you the best in Latex developments. Our understanding of polish formulating problems is your assurance of the latest techniques and developments in polymer polish ingredients.

***TECHNICAL SERVICE FOR MANUFACTURERS***. . . Analyzing your polymer floor polish and recommending improvements is one of Morton's most important projects. Our technical staff is on call, and on duty . . . in your laboratory or ours . . . until your problem is solved.

***OUTSTANDING PERFORMANCE*** . . . Your goal . . . and ours . . . is to produce a polymer floor polish with the characteristics your customers want. *Morton's RWL Latices* permit you to formulate for high gloss, hardness, durability, leveling, or any other specific properties needed. Ultra-small particle size of less than 0.02 microns, and high stability of *Morton's RWL Latices* give you complete flexibility in developing your formulas.

Your Morton Man can give you complete details on *RWL Latices* and Morton's complete technical service. Your inquiry will receive immediate attention.

**CHEMICAL PRODUCTS FROM MORTON**

Modified Polystyrene and Acrylic Latices
Magnesium Oxide • Magnesium Carbonate
Bromides—Potassium, Sodium, Ammonium
Sodium Sulfate (salt cake) • Hydrochloric Acid
Allyl isothiocyanate • Benzotriazole
Photographic Chemicals
Diazo Chemicals • Cuprous iodide
3, 5-Diiodosalicylic Acid • Orthophenylene diamine
Phloroglucinol • Agricultural Chemicals

**MORTON CHEMICAL COMPANY**

110 N. Wacker Drive, Chicago 6, Illinois
Plants: Ringwood, Illinois—Manistee, Michigan
Weeks Island, Louisiana

# NEWS

### In Boyle-Midway Post

Carl W. Plehaty Jr., has been appointed vice-president and director of advertising of the

Carl W. Plehaty

Boyle-Midway division of American Home Products Corp., New York, it was announced recently by Bernard Gould, president of Boyle-Midway. The division makes and distributes a wide variety of products including: waxes and polishes, insecticides, cleaners, germicides, disinfectants, deodorants and such items as shaving lather, "ice" in cans, and charcoal lighter.

Prior to joining Boyle-Midway, Mr. Plehaty was an account executive, specializing in various food accounts, with Fletcher Richards, Calkins & Holden, Inc., New York advertising agency. Earlier he had been with Standard Brands, Inc., New York, in various advertising capacities.

—★—

### Oxford Chemical Buys S&S

Oxford Chemical Corp., Atlanta, manufacturers of cleaning chemicals, soaps, and various chemical specialties, has purchased S&S Chemical Co. and Avril of Florida, Inc., related Miami firms which also make and job cleaning chemicals. Nat Sandler, president of Oxford, advises that Sam Stark will continue to operate the S&S and Avril divisions of Oxford as manager for the state of Florida. He will also be state manager for Center Chemical Co., another Oxford subsidiary in the same field. Eventually the three divisions may be operated under the Center name.

Oxford Chemical, established about 15 years ago, presently occupies about 16,000 square feet of plant space at 166 Central Ave., S.W., in Atlanta. The firm became a publicly owned corporation in December, 1959, its stock being traded over the counter in several cities including Atlanta. It is expected that announcement of additional expansion will be made in the near future.

—★—

### Buys 'Reddi Starch'

Chester G. Gifford, president of Simoniz Co., Chicago, and T. R. Reed, president, Union Starch and Refining Co., Columbus, Ind., jointly announced recently that Simoniz Co. had acquired the new aerosol, "Reddi Starch," from Union Starch.

Elmer Rich, Jr., chairman of the board, Simoniz Co., said that national advertising campaigns on behalf of "Reddi Starch" were to start immediately.

—★—

### Sanner Joins DuBois

Appointment of W. C. Sanner as director of institutional sales of DuBois Chemicals, Inc., Cincinnati, was announced recently.

Mr. Sanner was associated with Economics Laboratory, Inc., St. Paul for the past 16 years. He was director of Economics' institutional division in the U. S. and a vice-president of its Canadian operations. He is a veteran in the areas of sales management and marketing of detergents, and automatic controls and mechanical dishwashing equipment.

### Oakite Advances Tucker

Ken C. Tucker has been named assistant sales manager of Oakite Products, Inc., New York,

Ken C. Tucker

manufacturers of specialized chemical compounds for industrial cleaning and metal treating, it was announced recently.

Mr. Tucker, with Oakite since 1945, was previously manager of the food industries division of the firm. One of the major responsibilities of the new post will be the servicing of national accounts. He will report to William A. Baltzell, vice-president and sales manager.

Mr. Tucker is a member of the Institute of Sanitation Management.

—★—

### McElroy Receives Award

Neil H. McElroy, chairman of the board, Procter & Gamble Co., Cincinnati, was presented with the 1960 Public Service Award of The Advertising Council, for having "contributed notably to the welfare of his country and his fellow citizens." The award was presented at the annual awards dinner of the council in New York, Nov. 22. Roy E. Larsen, chairman, executive committee, Time, Inc., New York, the 1959 recipient, made the presentation.

FAIRFIELD

# Fairfield Facts

CHEMICAL EDITION ★ ★ ★

# SAFETY, SYNERGISM AND SALES APPEAL
# *THAT'S BUTOXIDE!!*

*The most extensive laboratory and field tests ever conducted on an insecticide by any company proved piperonyl butoxide's unique low order of toxicity which resulted in tolerances and official clearances not yet given to any other insecticide and its use with pyrethrins. Rats were fed piperonyl butoxide with all the food that they consumed from time of weaning through the normal lifespan and through three successive generations. Amount of chemical (right) is mixed with rat's weekly food ration contained in glass beaker.*

## TESTS PROVE BUTOXIDE'S LOW TOXICITY

Years of testing insecticide chemicals in Fairfield's research laboratories prove butoxide's unique low toxicity.

In addition, chronic feeding studies were conducted with rats, dogs, goats and monkeys. Cattle were sprayed twice daily throughout the season with butoxide and pyrethrins for four years. Not a trace of butoxide appeared in samples of the cattle's muscle, fat or milk. This resulted in clearance for use of butoxide and pyrethrins on dairy animals.

Laboratory tests made 14 years ago showed DDT's oral LD50 for rats is 200 mg/kg. At the same time the oral LD50 of undiluted piperonyl butoxide for rats was found to be approximately 8,750 mg/kg. Thus, towards rats, Fairfield's butoxide was only 1/43rd as toxic as DDT. By the time the toxicological studies were completed, it was found that the MLD50 for butoxide greatly exceeded the earlier reports. More recent work completed on chronic tests with piperonyl butoxide, completely satisfied the federal regulatory authority for their tolerances and clearances. At the present time all tolerances are based on chronic feeding tests.

For the formulator and manufacturer, Fairfield's butoxide, thus, plays an important role in producing insecticides with greater safety and salability... whether they are products for home, farm or industry. Consult your local Fairfield representative for further information or write today to Fairfield sales headquarters.

## *Fairfield Development Boosts Insecticide Performance*

Butoxide, the best known and the most famous of all insecticide synergists, is a Fairfield research development. It gives insecticide formulators and manufacturers a more effective product...and it saves them money.

Piperonyl butoxide has the unique ability of tremendously increasing the insect killing power of certain chemicals.

For example, 0.125% by wt. of pyrethrins—though seldom used alone today—when applied against houseflies has a mortality of 43%. Cost is approximately $0.07 per pound.

But then add Fairfield's piperonyl butoxide and see what happens. A combination of 0.03% pyrethrins and 0.25% piperonyl butoxide applied against houseflies produces a striking 82% mortality. Cost of the butoxide and pyrethrins combination is $0.03 per pound. Quite a difference in both effectiveness and in price—*doubled performance at half the cost!*

The surging increase in effectiveness is the result of synergism, an action that takes place inside the insect's body. It produces the remarkable kill required in a popular, fast-selling insecticide.

There are other advantages too. Piperonyl butoxide is not only stable, but it acts as a stabilizer for certain other chemicals by reducing the effects of light, air and heat. It screens out deteriorating ultra-violet rays, thus, prevents deterioration of pyrethrins.

And because it is an acid acceptor, it retards decomposition and polymerization of pyrethrum. Since butoxide is also a solvent, it generally makes the addition of other solvents unnecessary —an important consideration when an odor-free product is desired.

And butoxide's synergizer-stabilizer role applies whether the chemical is pyrethrins, allethrin or rotenone.

What this all means is that butoxide puts greater effectiveness into a product and makes it last longer—on the shelf and after it has been applied by the user.

*Putting Ideas to Work*

fmc FOOD MACHINERY AND CHEMICAL CORPORATION ®

**FOOD MACHINERY AND CHEMICAL CORPORATION**

**Fairfield Chemicals**

Sales Headquarters

441 LEXINGTON AVENUE, NEW YORK 17, N. Y.

Branches in principal cities. In Canada: Natural Products Corporation, Montreal and Toronto.

In his remarks Mr. McElroy stated,

"if we are to meet the uninvited but obligated leadership of the free world, it is essential that we build our strength in every part of our society. I think it is clear that at the core of this society is our government. To be capable of world leadership, we must have strong and able government."

"Those who make up our government will determine the success with which we govern ourselves and meet our world obligations. To the extent that all people appreciate this fact, we shall be able to build the kind of government the times demand. We must find ways to upgrade public understanding of the quality and importance of the people of government. We must develop more and better ways to encourage qualified people to devote themselves to government service. We need public support for sound steps to solve the problems that encumber recruiting efforts for government."

★

## Colson Joins Williams

Leonard V. Colson has joined the J. B. Williams (New York) Company's toiletries division, as director of marketing it was announced recently.

Prior to his new position Mr. Colson was vice-president of Pharmacraft Laboratories, a division of Joseph E. Seagram Co., New York.

## Johnson Foundation Grant

The University of Wisconsin announced recently a $100,000 grant from the Johnson Foundation of Racine for establishment of a Center for Productivity Motivation in the School of Commerce. Presentation of the grant, for a three year period, was made by Herbert F. Johnson, chairman of the board, representing the foundation; a philanthropic, non-profit organization created in 1937. The foundation's principal donors are the Johnson family and S. C. Johnson & Son, Inc., Racine manufacturer of wax products and other chemical specialties.

★

## Dow Appoints Briggs

Ernest A. H. Briggs, Jr., has been appointed national account manager for private label antifreeze and coolants it was announced recently by Dow Chemical Co., Midland, Mich.

In his new capacity, Mr. Briggs will supervise sales of private label antifreeze and coolants to all national marketers. These products are marketed through Dow's Automotive Chemicals Sales.

For the past eight years, Mr. Briggs has been in private label antifreeze sales and has developed new training techniques to aid customer sales personnel on good cooling system maintenance.

Ernest A. H. Briggs

He joined the Dow sales staff in 1945, and was in aromatic, pharmaceutical and organic chemical sales until 1953.

Also named as an account manager was Charles W. Frost, Jr., chemicals field salesman and solvents field service man in the Camden, N. J. sales office.

Mr. Frost started with Dow in 1946 with the export department in the New York sales office. He became a chemicals office salesman in New York in 1950 and a field salesman in 1953.

★

## Edward W. Barclay Dies

Edward W. Barclay, 51, New Orleans district manager for Procter and Gamble Distributing Co., Cincinnati, died Nov. 23rd at the Hotel Dieu, after a short illness. He was in charge of the case soap sales department for Louisiana, Mississippi and part of Alabama.

A native of Birmingham, Ala., Mr. Barclay was a graduate of the Georgia Institute of Technology. He joined the sales department of the Atlanta division of Procter and Gamble in 1934.

He is survived by his wife, Alice; a son, Craig; two daughters, Meredith and Kevin Barclay and a brother, Charles Robert Barclay of San Diego, Calif.

**Howard Morgens (left), president of Procter & Gamble Co., Cincinnati, receiving award of Joint Defense Appeal for his "contributions to human welfare" from Henry E. Schultz, president of Anti-Defamation League of B'nai B'rith. Barton A. Cummings (right), president of Compton Advertising, Inc., New York, was chairman of 1960 JDA dinner committee.**

# She's looking for something better in cosmetics

# . . . supply it with CARBIDE's triethanolamine

Emulsions made with triethanolamine soaps are ideal bases for cosmetic creams, lotions, and pharmaceuticals. Since their water solutions are essentially neutral, amine soaps don't injure skin or fabrics. Such preparations have an attractive texture and body . . . give a pleasant feel to face and hands. And they are easily removed with water or tissues.

CARBIDE's triethanolamine, mixed with fatty acids to form amine soaps, gives emulsions the consistency of petrolatum. Its solutions in water show marked detergent properties, useful in shampoos and in cleansing and vanishing creams. Brushless shaving creams with good softening, wetting and lubricating action are easily formulated with these bases. Pharmaceutical emulsions for external use can be efficiently prepared with triethanolamine and isopropanolamine as the starting point.

Shipments of CARBIDE's triethanolamine are made in 55-gallon drums, LCL or carload lots; you can save by ordering in combination with other CARBIDE products. Ask a Technical Representative in any CARBIDE office for information on possible savings through choice of shipment's size.

Starting formulas for a variety of cosmetic products are included in the 100-page book, "Emulsions and Detergents." In addition, you'll want a copy of "Alkanolamines and Derivatives," containing information on applications and properties of CARBIDE ethanolamines. For a copy of each book, write Dept. H, Union Carbide Chemicals Company, Division of Union Carbide Corporation, 270 Park Avenue, New York 17, N. Y.

**UNION CARBIDE CHEMICALS COMPANY**

UNION CARBIDE

### FTC Cites Pactra Chem.

The Federal Trade Commission recently charged Pactra Chemical Co., Los Angeles, Calif., with misrepresenting the safety of "Tilo," the ceramic tile cleaner it distributes.

FTC's complaint alleges that the company falsely represented in advertising and promotional material that "Tilo," used as directed, is safe for cleaning all types of ceramic tile. Actually, the complaint states, the cleaner will damage all ceramic tile having a metallic finish, as well as some other types of tile, even when used according to directions.

Included in the complaint are the firm's officers, Alfred L. Davenport, Jr., Adrian Chalfant and Donald Barber.

—★—

### Peet Heads N. J. Taxpayers

Roy W. Peet, general manager of the Association of American Soap & Glycerine Producers, was elected president of the New Jersey Taxpayers Association at a recently held meeting of its 58-man board of directors, according to an anouncement from the Trenton, N. J., headquarters of the 30 year old organization. He was formerly president of the East Amwell Taxpayers Association of Hunterdon County, New Jersey. He is also a

Roy W. Peet

member of the three-man Township Committee, the local governing body for East Amwell, having been elected on the Republican ticket in 1959 for a three-year term.

Among the newly elected board of directors of the New Jersey Taxpayers Association is included Hugh Jewett, vice-president and secretary of the Colgate-Palmolive Co. who was elected to replace E. H. Little who was given a certificate of meritorious service by the Association upon his retirement. Mr. Little had been a member of the board for many years. William G. Mennen, Jr., vice-president of the Mennen Company is also a member of the newly elected board of directors.

### Lehn & Fink Names Olsen

D. J. Olsen has been named assistant general manager of manufacturing, Lehn & Fink Products Corp., New York, it was announced recently by E. J. Dempsey, general manager of the Bloomfield, N. J. manufacturing division.

Formerly manager of production control, Mr. Olsen will assist in the overall direction of the division and will be responsible for liaison of the manufacturing and marketing divisions. He will also direct long range studies and plans for the division, and continue to manage the production planning and inventory control; industrial engineering activities.

—★—

### Reck Named Chief Chemist

Richard A. Reck has been appointed chief chemist of Armour Industrial Chemical Co., Chicago, it was announced recently by M. R. McCorkle, technical director. He succeeds the late Vernon Franklin.

Mr. Reck has been with the company since 1945, starting as a chemist in the fat and oil laboratory. He is now responsible for the McCook (Ill.) control laboratories, issuance of specifications on all products and approval of product shipments and incoming raw materials.

### Fuld Adds Three Salesmen

James Selway, vice-president in charge of sales, Fuld Brothers, Inc., Baltimore, announced recently the appointment of three new sales representatives.

Gerald Leider has been assigned to the mid-Atlantic area, David H. Wiley the southern territory, and Philip J. McKenna will represent Fuld Bros., in the metropolitan New York, northern New Jersey area. All three men have completed the company's training program.

Gerald Leider

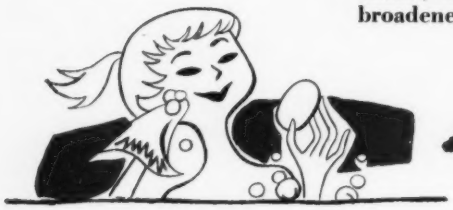
David H. Wiley

Philip J. McKenna

# G-11®

## (HEXACHLOROPHENE U. S. P.)

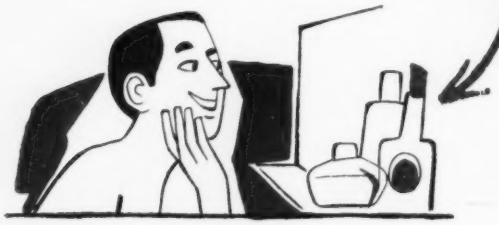
**with its unique degerming and antiseptic action, was the key to increased sales and broadened markets *for all these products:***



### SOAPS

Waterless Hand Cleaners
Detergents
Shampoos

Deodorant
Antiseptic
Surgical Scrub
Medicated



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Antiseptic Ointments
Diaper Rash Preparations
Instrument Sterilization
Bandages
Surgical Dressings
Vaginal Preparations
Antipruritics
Protective Hand Creams
Corn Ointments

### COSMETICS

Deodorant Creams
Deodorant Sticks
Deodorant Colognes
Deodorant Powder
Anti-perspirants
Baby Lotions
Baby Powders
Hand Lotions
Face Creams
Shampoos

Acne Lotions
Menthol Lotions and Ointments
Anti-infectives
Surgical Rubber Goods
Lip Pomades
Aerosol Foot Sprays

Skin Conditioners
Dusting Powders
Hair Dressings
Antiseptic Creams
Aftershave Lotions

**Perhaps G-11 is exactly what *your* product needs to give it a competitive advantage in your markets. Sindar invites you to phone, wire or write for full information.**

SINDAR® *Corporation*
Industrial Aromatics and Chemicals
321 West 44th Street, New York 36, N. Y.

## Lehn & Fink Appoint Nelson

Edgar W. Nelson has been appointed director of marketing for Lehn & Fink Products Corp.,

Edgar W. Nelson

New York, it was announced recently by Walter N. Plaut, president.

Formerly general manager of the Lehn & Fink Division, Mr. Nelson will coordinate the marketing activities of the corporation's consumer products. He is responsible for long-range planning and the integration of marketing research and new product development, as well as supervising art and packaging design work.

In announcing this major organizational change, Mr. Plaut said, "Coordination of the marketing efforts has become increasingly necessary because of the essential similarity of our distribution outlets, products and selling policies."

Prior to joining the corporation in 1959, Mr. Nelson was for three years senior vice-president of Market Planning Corporation, an affiliate of McCann-Erickson, Inc., New York advertising firm. Previously, he was assistant to the president of Lever Brothers Co., New York, acting in a sales management capacity. Before that he was a marketing consultant for Booz Allen and Hamilton, Chicago.

—★—

## Johnson Names Shively

William J. Shively has been named by S. C. Johnson & Son, Inc., Racine, Wis., as market planning manager. He will assist subsidiaries and manufacturing distributors in the company's overseas marketing region including Europe, Africa and the Near East. He will serve on the London staff of Samuel C. Johnson, vice-president and director of the region.

Mr. Shively is a graduate of Colgate University and Harvard School of Business Administration. He has served as an export sales representative, international administrative assistant, new products coordinator and assistant product manager. He was associated with Johnson's subsidiary in England for three years.

—★—

## Stauffer Moves Offices

Stauffer Chemical (New York) Company's agricultural chemicals division recently moved its northeast regional sales department to 555 Fifth Ave., New York. The telephone number is Yukon 6-2323.

In addition to northeast regional personnel the new office is the headquarters for Dr. P. D. Peterson, technical sales director for the agricultural chemicals division and Dr. Ray Kriner, agricultural research and development representative.

## Noonan Joins Geigy

Frank Noonan has joined Geigy Industrial Chemicals Division, customer service department,

Frank Noonan

Ardsley, N. Y., as product manager in charge of fluorescent agents.

Mr. Noonan was formerly associated with the U. S. Naval research laboratory where he helped develop high visibility paints for aircraft.

At Geigy, he will head a group evaluating fluorescent agents for use as optical brighteners in detergents, laundry specialties, polymers and synthetic fibers.

**Charles Thorn (second from left), publisher of Redbook Magazine, spoke on new "young adult" market, at Cosmetic Industry Buyers & Suppliers Association luncheon, Dec. 8, in New York. Left to right: Shockley C. Gamage—general program chairman, Magnus, Mabee & Reynard, Inc., New York; Charles Thorn, Lamson M. Scovill—CIBS president, Scovill Mfg. Co., New York; Harold Hutchins, Redbook, New York; Dallas D. Rosh—luncheon program chairman, Owens-Illinois Glass Co., New York.**

# "I hear she's got ETH-AN-OLA-MIDES in her kitchen!"

Of course she does, ladies. But you can relax. Smart, technically alert soap and chemical specialty manufacturers have stocked not only her kitchen, but nearly every other room in her house with soaps, detergents, waxes or cosmetics containing ethanolamides.

In detergents, these important compounds act as foam stabilizers and viscosity boosters. They're used as dispersing agents and corrosion inhibitors to permit packaging of institutional cleaners in mild steel. You'll find them in textile softening agents, wool scouring and cotton washing formulations.

**ALLIED CHEMICAL ETHANOLAMINES**—used in preparing ethanolamides — are manufactured by an improved process which assures purity and high quality. Write or phone for specifications or technical assistance in formulating ethanolamines into your operation.

*For specifications and local offices, see our insert in Chemical Materials Catalog, page 272A and in Chemical Week Buyers Guide, page 27.*

BASIC TO AMERICA'S PROGRESS

Allied Chemical

NITROGEN DIVISION

Dept. EA 9-27-6, 40 Rector Street • New York 6, New York

## W. J. Weed Retires

William J. Weed, chairman of the executive committee of Mantrose Corp., New York, shellac

William J. Weed

manufacturers and refiners, retired from active business on January first. Widely known in the chemical and chemical specialty industries, Mr. Weed was truly a character out of one of Horatio Alger's books. He started his working career over 50 years ago as a boy in a West Virginia coal mine, then as a laborer in the chemical industry joining Niagara Alkali at Niagara Falls in 1912. He served 43 years with Niagara rising to become vice-president and director of sales. When Niagara was taken over by Hooker Chemical in 1955, he became a vice-president of Hooker. He retired December 31, 1957 from that position, but shortly thereafter joined Mantrose Corp. which was headed by his close friend, Robert J. Milano. Mr. Weed's future plans call for a three months rest in Florida after which he will serve in an administrative capacity for a small Westchester hospital and for several civic organizations.

—★—

## Molnar Heads Fund Drive

Nicholas M. Molnar, president, Fine Organics Inc., Lodi, N. J., has accepted the chairmanship for the Annual Fund Raising Campaign for the Boys' Club of Lodi, it was announced recently. Under Mr. Molnar's leadership the Boys' Club will try to raise approximately $33,000 for the operation of the club during 1961.

—★—

## CPSEA Speaker

Len O'Connor, Chicago news and sportscaster, was the guest speaker at the monthly luncheon of the Chicago Perfumery, Soap and Extract Association, Inc. The group met Jan. 10, at the Sheraton Towers Hotel.

—★—

## Allied Revises Labels

A new labelling program was initiated last month by the National Aniline Division of Allied Chemical Corp., New York. This step was necessitated by National Aniline's diversification resulting in a product line of 3,000 items, according to James G. Fox, Jr., division president.

Similar design, different sizes and a color coding system are features of the new labels. Purple indicates detergents, blue resin chemicals, etc. The program includes drums, packages, canisters and other units.

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**Carl A. Gerstacker, recently elected chairman of the board, Dow Chemical Co., Midland, Mich., was unanimously elected president of the Synthetic Organic Chemical Manufacturers Association, at its 39th annual meeting, held Dec. 8, in New York.**

**Dr. Gerstacker joined Dow in 1938. He was named a vice-president in 1955 and a member of the executive committee in 1957. He served as treasurer of the firm for ten years, and was elected chairman of the finance committee in 1959, succeeding Dr. Earl W. Bennett. Dr. Gerstacker, in addition to his duties as board chairman, continues as chairman of the finance committee.**

## Witco Names Cubicciotti

Rudolph Cubicciotti has been named administrative vice-president of Witco Chemical Co.,

Rudolph Cubicciotti

New York, it was announced recently.

He will direct the planning and coordination of all activities that relate directly to future corporate growth. His responsibilities extend to all Witco divisions, including Sonneborn Chemical and Refining Corp., Utlra Chemical Works, Inc., and Witco's tar products and Pioneer Products divisions.

Prior to his advancement, Mr. Cubicciotti was vice-president of Sonneborn Chemical and Refining Corp., New York, a wholly owned Witco subsidiary. He joined Sonneborn in 1943 and, before that, was product sales manager for Union Oil Company of California.

Witco manufactures detergents and detergent chemicals, petroleum sulfonates, petroleum waxes and numerous other specialty chemicals.

—★—

## New Fungicide-Bactericide

Nuodex Products Division, Heyden Newport Chemical Corp., Elizabeth, N. J., recently announced the development of "Fungitrol 11," a fungicide for use on vinyl calendered and extruded plastic materials.

The fungicide-bactericide is nonmetallic and claimed to be heat

# PILOT ABS99

## BUILDS BETTER PRODUCTS

*dishwashing liquids*

*dry detergent powders*

*emulsion cleaners*

**PILOT ABS-99** builds better end products because ABS-99 *is* a better product to start with. ABS-99 *is* the highest dodecyl benzene sulfonic concentrate commercially available: 98% concentrated with extra activity—14% more active ingredient than ordinary 88% pure sulfonics.

ABS-99 is purer. *So pure, in fact, that it may be kept in plain steel containers!*

Pilot ABS-99 offers greater compatibility with oils and other organic substances; it prevents precipitation because of its low sulfate content, lowest of any similar material on the market.

The uniqueness of this new standard of purity is a result of Pilot's *cold processing:* built in are high detergency and foaming character—stabilized are its light color, viscosity and low odor. You'll save, additionally, on perfuming.

Pilot ABS-99 adds greater flexibility to your detergent formulations, for it is the basic building block for all sulfonic detergent products. So, for superior products—start with the best. Write for technical literature and samples right now.

LEADS THE WAY TO BETTER PRODUCTS
PILOT

**PILOT** *Chemical Company of California*

P.O. BOX 22130 • LOS ANGELES 22

and light stable, nonstaining and safe to use. "Fungitrol 11" delivers a high level of long lasting activity, and with reduced concentrations achieves protection against "pinking" and other attacks from fungus.

—★—

## Reidy Joins Yardley

John J. Reidy has joined Yardley of London, Inc., New York, as vice president in charge of marketing, a newly created position. The appointment was announced last month by Philip C. Smith, president of the American company.

Mr. Reidy has been an officer of Schick, Inc., since 1958; executive vice president and general manager of Casco Products Corp. for the preceding 10 years. Prior to that he had served on the executive sales staff of Schick for 10 years.

In his new post Mr. Reidy will co-ordinate the functions of sales, merchandising and advertising departments and participate in establishing marketing policies and objectives.

—★—

## Franklin Farley Dies

Franklin Farley, 66, former president of the Chlor-Alkali Division of Food Machinery and Chemical Corp., New York, died Nov. 24, at Lakeland, Fla. Before joining FMC in 1954, Mr. Farley was vice-president of Phosphate Mining Co., New York, and vice-president of Internationl Minerals and Chemicals Corp., Chicago. He served both as president of the Chlor-Alkali Division and, from 1957, as management consultant. He retired in September of this year.

Franklin Farley

**Officers of the Chicago Chapter of Society Cosmetic Chemists for 1961 seated: Lura S. Rickets, Toni Co.—secretary, Wiilliam H. Walker, Fuller Products Co.—chairman: rear, l. to r.: Stillman R. Goff, Toni Co.—chairman-elect, and William D. Ackley, International Flavors & Fragrances, Inc.—treasurer.**

—★—

## Chemists Elect Officers

The Chicago chapter of the Society of Cosmetic Chemists recently elected the following officers for 1961: chairman, William H. Walker, Fuller Products Co.; chairman-elect, Stillman R. Goff, Toni Co.; secretary, Lura S. Ricketts, Toni Co., and treasurer, William D. Ackley, International Flavors & Fragrances, Inc.

Mr. Walker has since appointed his board of directors and chairmen of various committees: education, Adam T. Krol, Clearing Chemical Laboratories, Inc.; publicity, Beverly J. Steinberg, Toni Co.; house, Louis Lerner, Toni Co.; program, Warren Hintz, Alberto Culver Co.; hospitality, Chester F. Moculeski, Clintwood Chemical Co.; inter-professional relations, Dr. Emery Robert, Fuller Products Co.; membership, Marshall Sorkin, Helene Curtis Co.; policy and bylaws, Fred Timmons, Kolar Laboratories; ladies' night, Barton R. Owells, Chemical Enterprises.

Mr. Fred Klepetar, senior research chemist of Johns-Manville Corp., New York, Dutch Brand division, was the featured speaker at the Nov. 15 meeting.

—★—

## New Hercules Distributor

Hercules Powder Co., Wilmington, Del., recently appointed Thompson-Hayward Chemical Co., Kansas City, Kans., as distributor for Hercules' "Pamak" tall oil fatty acids in most of the mid-continental area.

Thompson-Hayward distributes "Pamak" in all mid-continental states except Wisconsin, Michigan, and parts of Illinois and Indiana, where Arthur C. Trask Co., Chicago, handles the distribution.

"Pamak" tall oil fatty acids are made by the paper makers chemical department of Hercules, and are used in making soap, disinfectants, and other products.

# AH! WHAT'S THIS... ANOTHER PROBLEM?

But, then, we're accustomed to problems – particularly customers' perfume problems, – as evidenced by our files of numbered compounds. These are high in the thousands and each represents some customer's problem successfully completed and accordingly numbered and thus identified. Since this system has been in effect we have recorded over thirty thousand compositions. That represents a tremendous *accumulation of experience* . . . enough, no doubt, to justify your assigning us *any fragrance* problem that may be bothering you. Our representative or a member of our perfume staff will be glad to discuss such matters with any authorized representative of your firm. You say the word!

**FB INC.**

**FRITZSCHE BROTHERS, Inc.**

**76 NINTH AVENUE NEW YORK 11, N. Y.**

**Branch Offices and *Stocks: Atlanta, Ga., Boston, Mass., *Chicago, Ill., Cincinnati, Ohio, Greensboro, N. C., *Los Angeles, Cal., Philadelphia, Pa., San Francisco, Cal., St. Louis, Mo., Montreal and *Toronto, Canada; *Mexico, D. F. and *Buenos Aires, Argentina. Plants: Clifton, N. J. and Buenos Aires, Argentina.**

## ASCC Hears Amsterdam

In a recent address before the California chapter of the American Society of Cosmetic

Herman J. Amsterdam

Chemists held in Los Angeles, H. J. Amsterdam, president of the society, reported on 1960 operations and on the newly formed International Federation of Societies of Cosmetic Chemists.

Presently composed of 10 autonomous national societies, among them the United States, England, France, Italy and Germany, the Federation was chartered in Munich early in September.

—★—

## New Darling President

Nelson Morris, II, was elected president of Darling & Co., Chicago rendering firm, it was announced recently. He succeeds William H. McCausland, who has become chairman of the board. The position of board chairman had been vacant since the death of Charles A. Alling last April. Mr. McCausland, associated with the company since 1910, served as president since December, 1954.

Mr. Morris joined the firm in 1946. He was general manager of its Buffalo, N. Y. plant from 1952 to 1954, and then returned to Chicago as assistant to the vice-president in charge of sales, a position he had held for the last four years.

In another management promotion, Ralph B. Dainty, with the company since 1939, has been named vice-president in charge of raw material.

—★—

## Industrial Isotopes

A new 80-page illustrated catalog listing radioisotopes and equipment accessory to their use in industry and medicine has just been published by the Commercial Products Division of Atomic Energy of Canada Ltd., P. O. Box 93, Ottawa.

At the same time a companion volume to catalog "D" has become available under the title "The AECL Radioisotope Handbook." This 66-page booklet gives basic information on radiation, nuclear fission and reactors, radioisotope production, radiation shielding, uses of radioisotopes, and cobalt 60. A special section is devoted to definitions.

Both publications are available free upon request on company letterhead. Quantities exceeding 10 copies may be purchased at 30 cents a copy.

—★—

## Fritzsche Appoints Davey

Andrew D. Davey has joined the sales department of Fritzsche Brothers, Inc., as manager of the New York essential oil and aromatic chemical firm's Boston office. He will cover a major part of the New England territory.

Prior to joining Fritzsche, Mr. Davey was a salesman with S. B. Penick & Co., New York, for nearly ten years.

Andrew D. Davey

## Thomson Jones Sales Head

Stan Thomson has been promoted to sales manager of R. A. Jones & Co., Cincinnati, it was an-

Stan Thomson

nounced recently by Wickliffe Jones, president. The firm designs and manufactures automatic and semi-automatic cartoning and case packing machines.

Mr. Thomson joined the firm's sales staff in 1957, and was advanced to assistant sales manager last year. He has had 14 years experience in the packaging field as a sales engineer, and was associated with the boxboard and folding carton division of Continental Can Co., New York, in charge of the eastern mechanical packaging department.

—★—

## Armour Adds Research Lab

Armour Industrial Chemical Co., Chicago, recently began construction of a new research laboratory at their plant at McCook, Ill. The plant produces long chain fat chemicals and derivatives which are used as surfactant and other chemical intermediates, corrosion inhibitors, and in other specialty applications.

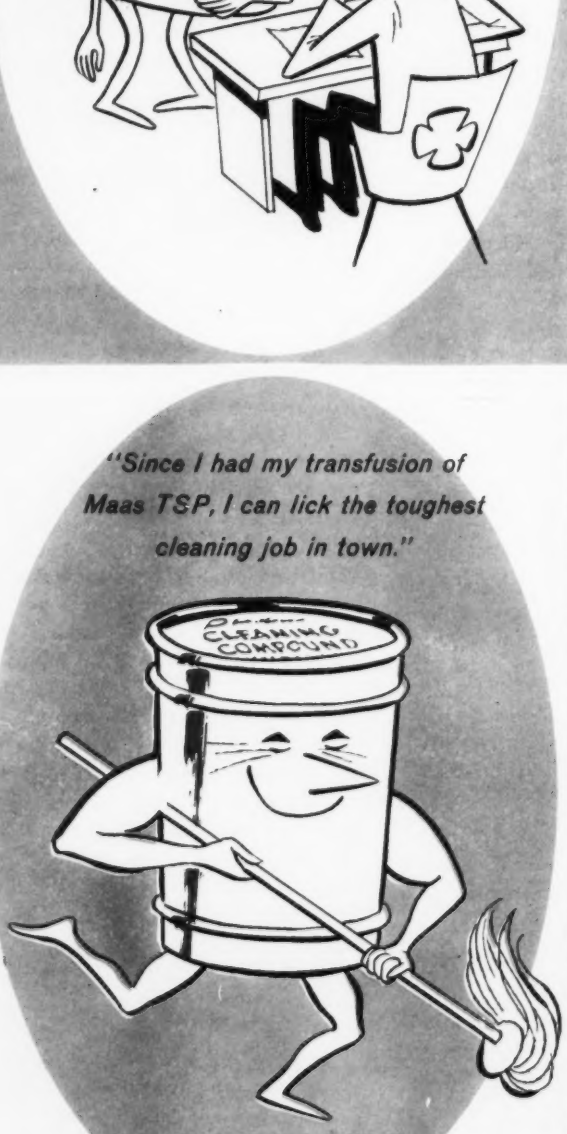
The new laboratory and pilot plant are expected to contribute to the development of novel automotive oil and gasoline additives and of new organic chemicals from fats.

The one-story research laboratory building is expected to be ready for occupancy by late fall of 1961.

*"DOC... tough cleaning jobs wear me out... I can't whip hard water or fight my way out of a grease spot!"*

*"I'm prescribing Maas TSP! to beef-up your make-up. You're suffering from acute inert-ingredient-itis and chronic saponifying deficiency."*

*"Since I had my transfusion of Maas TSP, I can lick the toughest cleaning job in town."*




**MORAL:**

Don't overlook the many exclusive qualities that made MAAS TSP famous..! Powerful degreaser, saponifier, casein solvent and water softener ... It has real he-man power.

**CHLORINATED TSP**

**NEW**

New—Chlorinated TSP—Wherever a deodorant or powerful sanitizer is required, Maas Chlorinated TSP gives an extra plus quality, extra cleaning ability and freer rinsing action.

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## CPSEA Elects Officers

The Chicago Perfumery, Soap and Extract Association, Inc., elected the following 1961 slate of officers and directors at its annual meeting, held Dec. 13, 1960: president—John P. Helfrich, president of Helfrich Laboratories, Inc.; vice-president—Jack W. Baldwin, sales representative, Hazel-Atlas Glass Division—Continental Can Co., New York.; secretary—Harold W. Jelly, president, Walter H. Jelly & Co.; treasurer—George C. Kolar, president, Kolar Laboratories, Inc.

In addition, the following directors were chosen: Lester Keepper, past president, Abbott Laboratories, Inc.; Jack W. Baldwin, chairman, entertainment committee, Hazel-Atlas Glass Division, Continental Can Co., New York; Thomas W. Shedd, co-chairman, entertainment committee, Givaudan-Delawanna, Inc.; Wilfred H. Blume, chairman, golf committee, Hazel-Atlas Glass Division; Peter K. Sheffield, co-chairman, golf committee, Sheffield Tube Corp.; Raymond E. Champlin, chairman, luncheon committee, Meer Corp.; Richard Barry, co-chairman, luncheon committee, International Flavors and Fragrances, Inc.; Edward F. Lasek, chairman, publicity committee, Tennessee Products & Chemical Corp.; Paul Brna, co-chairman, publicity committee, Rhodia, Inc.; Charles T. Esdale, chairman, welfare committee, Packaging Industries; E. Richard Kuehne, chairman, finance committee, Mallinckrodt Chemical Works; Joseph Doroskin, chairman, membership committee, Heyden Chemical Division, Heyden-Newport Chemical Corp.; William A. Martins, chairman, bowling committee, Marcy Laboratories, Inc.; Lou Haznaw, chairman, directory committee, Florasynth Laboratories, Inc.; Wes Frederickson, co-chairman, directory committee, A. M. Steigerwarld Co., and Ralph E. Kaye, Jr., chairman, legislative committee, Ralph Kaye & Associates.

CPSEA was founded in 1906 and is a trade association of approximately 350 manufacturers and distributors of cosmetics, toiletries, chemicals, perfumes, soaps, extracts, flavors, pharmaceuticals, containers, packaging machinery, drugs, essential oils, beverages, packaging, publishing and printing, insecticides, proprietary medicines and aromatics.

—★—

## West End Expands

West End Chemical Co., a division of Stauffer Chemical Co., recently began construction of an additional sodium sulfate production facility at Westend, Calif. Scheduled for completion by early summer of 1961, the expansion will raise West End's sodium sulfate output to 200,000 tons per year, which is sold nationally, primarily to the detergent industry.

West End began its operations at Searles Lake, Calif., in 1927 to recover soda ash and borax from brine deposits. In 1955 the company installed facilities to produce high grade natural sodium sulfate. A second unit was added in 1957.

**Officers of Chicago Perfumery, Soap and Extract Association for 1961 l. to r.: treasurer—George C. Kolar, Kolar Laboratories, Inc.; vice-president—Jack W. Baldwin, Hazel-Atlas Glass Division—Continental Can Co.; president—John P. Helfrich, Helfrich Laboratories, Inc.; secretary—Harold W. Jelly, Walter H. Jelly & Co.**

## New Verona Salesman

Harold V. Mark, formerly with Blue Seal Extract Co., Boston, is now covering the New Jersey,

**Harold V. Mark**

Philadelphia and Pennsylvania sales territory for Verona Chemical Co., Newark, N. J.

—★—

## Denies FTC Charges

Glamorene, Inc., 175 Entin Road, Clifton, N. J., has denied Federal Trade Commission charges of misrepresenting the cleaning abilities and qualities of its rug shampoo and "Glamorene Rug Shampoo'er" applicator.

The company contends that the advertising statements cited in the FTC's complaint were "withdrawn from their context" and this "serves to create a false and misleading impression of the advertising."

The complaint alleged the advertisements falsely imply that the products are as effective as professional rug cleaning and will clean merely by spreading the shampoo.

Denying this, Glamorene declares the advertising represents that the company's products "will produce professional results in cleaning rugs and carpets and will, when used as directed, produce cleaning results claimed for it." The concern also argues that "under the Administrative Procedure Act and within its constitutional guarantee of due process of law, it was entitled, under the Commission's policy, and prior to the in-

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( Domestic )

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stitution of any formal proceedings, to an opportunity to dispose of the issues present in the proceeding by stipulation or other informal settlement provided for therein."

Despite these rights, continues the answer, the FTC did not give the company "an opportunity to stipulate, and further failed to even notify or inform Glamorene that any question of the propriety of its advertising had been raised, or that the firm was a subject of investigation thereby depriving it, and even the Commission, of the benefit of conference and informal discussion of efficacy of respondent's products and representations made therefore in its advertising.

"Accordingly in these circumstances and because of the Commission's precipitous action in filing complaint as aforesaid, there cannot be present in these proceedings the requisite element of public interest, and the Commission has deprived Glamorene of its rights under the Administrative Procedure Act and its right of due process under the Constitution of the United States."

Glamorene has asked dismissal of the complaint.

—★—

## ASTM Committee Week

The American Society for Testing materials will hold its committee week at the Netherland Hilton Hotel, Cincinnati, Jan. 30 through Feb. 3. Committee D-21 on Wax Polishes and Related Materials will convene on Thursday Feb. 2.

A symposium of Fire Test Methods sponsored by Committee E-5 on Fire Test of Materials and Construction is scheduled for 2:00 P.M. on Wednesday, Feb. 1st. A special dinner has been arranged by the Ohio Valley District Council for Wednesday evening, Feb. 2. Featured speaker at this affair will be Bernard B. Berger, chief of Water Supply and Water Pollution Research, Robert A. Taft Sanitation Engineering Center of Department of Health, Education and Welfare.

## Heyden Names Spitz

S. J. Spitz, Jr. has been appointed president of Newport Industries division of Heyden Newport Chemical Corp., New York, it was announced recently by S. Askin, Heyden's president. Mr. Spitz succeeds E. F. Sisson, who resigned Jan. 1, 1961 after 32 years with Newport. Mr. Sisson will remain a member of the corporation's board and serve, as special assistant to Mr. Askin.

S. J. Spitz, Jr.

Mr. Spitz, with Newport Industries since 1946, has been executive vice-president since early 1960. In this post he will be succeeded by Harold E. Rose, formerly vice-president in charge of production for Newport Industries. Mr. Rose joined Newport in 1940, and has been manager of the division's Oakdale, Fla., plant.

—★—

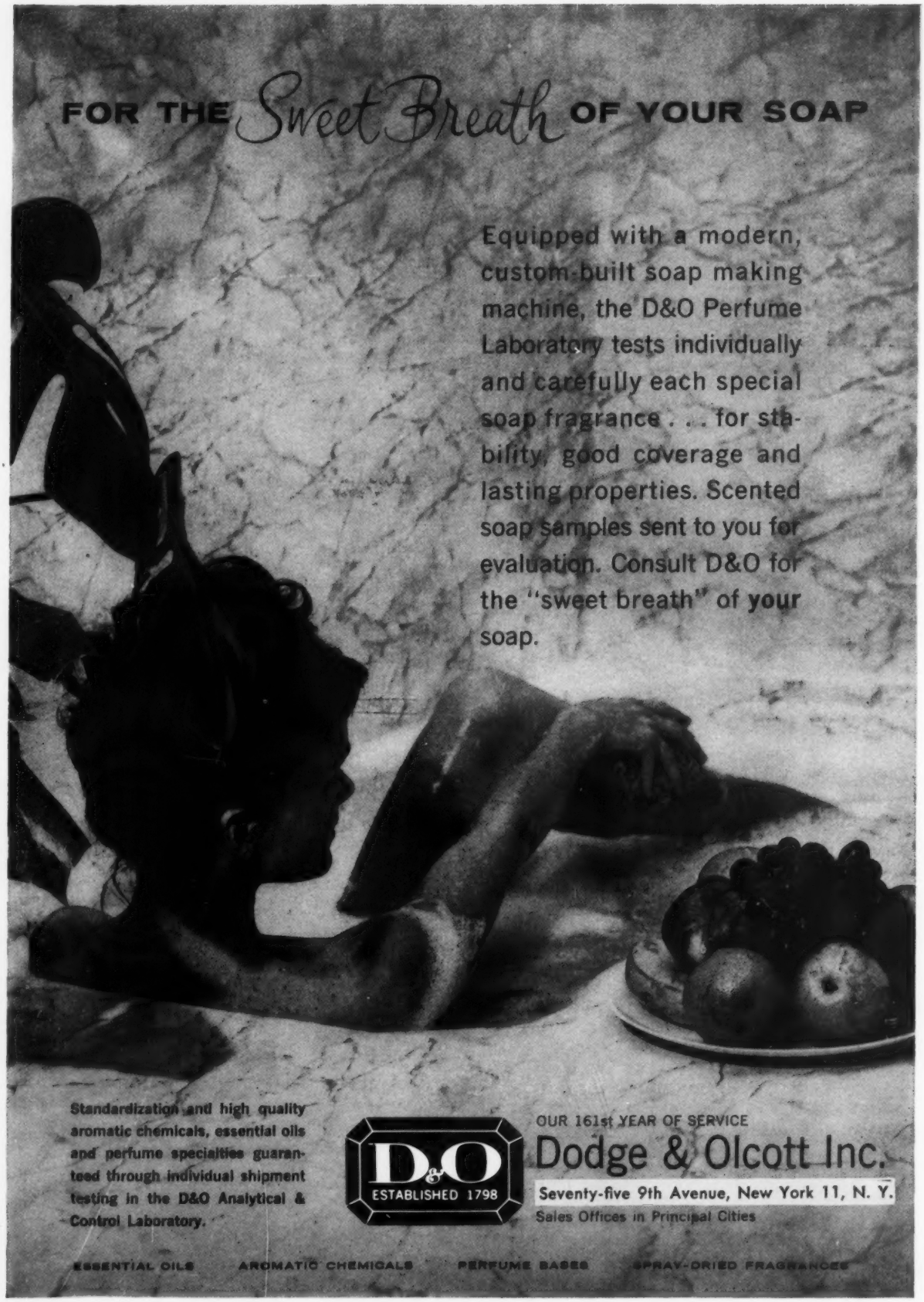
## Lewis Appoints Three

Lewis Slavin, president of Lewis Research Laboratories, Inc., Englewood, N. J., announced recently the appointment of Edwin M. Yeager, Jr., as sales manager, consumer products division; Adele Berné, manager, industrial sales, and Dorothy L. Hogg, director of public relations and publicity.

Prior to joining Lewis Research, Mr. Yeager was a merchandising executive with Hess's department stores, Allentown, Pa. Mrs. Berné, a sanitary engineer, has been a specialist on industrial sales the past four years; Miss Hogg was formerly with N. W. Ayer & Sons, Inc., New York, and with Colgate-Palmolive Co., New York, as a field representative for the soap division.

Lewis Research Laboratories produce non-poisonous, non-caustic chemical products for industrial and home use, and are currently manufacturing "Stain-Aid," "Drain-Aid," "Septi-Kleen," "Swish-Kleen" and "Swim-Kleen."

**On the dais at the seventh annual Christmas luncheon of the Cosmetic Career Women, held at the Waldorf-Astoria Hotel, New York, Dec. 13, were, standing left to right: Kay Colton, Morningstar-Paisley, Inc.; Esther Rowley, H & R Import Co.; Alice Ackerman, Avon Products, Inc.; Helen Joseph, U. S. Industrial Chemicals, Inc., and R. Jane Williams, Schimmel & Co. Seated: Catherine Moran, Giavaudan-Delawanna, Inc.; Annette Green, Helene Curtis-Lentheric, guest speaker; Bette Jackson, Shulton, Inc., luncheon chairlady, and Miss Michi Yasumura, director of children's recreation, Bellevue Hospital, New York. Nearly 200 packages of gifts were donated to the children of Bellevue.**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## NPCA Elects Officers

New officers were elected by the National Pest Control Assn., at its recent annual convention in

Maurice Oser

Tulsa, Okla. They are: Maurice Oser, president—Oser Exterminating Co., Denver, Col.; Charles W. Houghton, executive vice-president—Safety Fumigant Co., Boston, Mass.; Paul K. Adams, secretary-treasurer—Adams Pest Control, Alexandria, La.

Elected to the executive board were: Mr. Oser, chairman, Harold Schnorrenberg, Dead Shot Chemical Co., Oklahoma City, Okla., NPCA immediate past president; Lee C. Truman, Pest Control Service, Inc., Indianapolis, Ind.; William I. Elo, Elo Exterminating Co., San Antonio, Tex., and Stanley McKenzie, McKenzie Pest Control Co., Lake Charles, La.

—★—

## Price Increase by Dow

Dow Chemical Co., Midland, Mich., has announced a price increase on "Bisphenol A" and "Bisphenol 44." These materials are used as antioxidants or color stabilizers in soap and brake fluid formulations.

Truckload and carload quantity prices will be increased one cent a pound on both products. Prices on less than carload quantities will be increased one and one half cents a pound. The new prices are effective Jan. 1, 1961, to contract users and Dec. 15, 1960, to spot customers. Basic quantity prices under the new schedule will be 30½ cents a pound for "Bisphenol A" and 33½ cents a pound for "Bisphenol 44."

—★—

## Robinson to Expand

Robinson Wagner Co. has begun erection of additional facilities for the production of new lanolin derivatives at its Mamaroneck, N. Y., plant, it was announced recently. The new facilities, estimated to cost $170,000, are expected to be completed and in operation by the fall of 1961.

—★—

## Join P & G Research Div.

Charles D. Broaddus and William W. Bannister have joined the research division of Procter & Gamble Co., Cincinnati, it was announced recently.

Mr. Broadus holds a Ph.D. in organic chemistry from the University of Florida, and Mr. Bannister has completed graduate work at Purdue University.

Also, Fred W. Breitbeil III, a recent graduate from the University of Cincinnati, has joined the research staff at Procter & Gamble's Miami Valley laboratories.

## Chaleyer Rhodia Aide

Philip Chaleyer, internationally known perfumer and expert in aromatic products, recently

Philip Chaleyer

was appointed as consultant to Rhodia, Inc., New York, producer of aromatic chemicals, perfume compounds and synthetic flavorings. The company maintains plant and laboratories in New Brunswick, N. J.

Operating from his own laboratory in New York, Mr. Chaleyer will concentrate on the development of new perfume chemicals and basic fragrances for use in the cosmetic, soap and perfume industries.

**Five employees of Givaudan-Delawanna, Inc., New York, received gold watches last month marking their 25 years with the firm. They are: Michael Dombroski, production department foreman, and Adam Turow, emergency oiler-beltman, (second and third from left, respectively) and, right to left, Louis Balas, chemical operator first class; Andrew Csupecz, production department foreman; and Charles Perra, chemical operator, first class. Ernest R. Durrer, president (center) made the presentations, and Max Luthy, vice-president of production and research, (left) addressed the gathering of about 325 employees. The awards were made at Givaudan's annual Christmas Party in Rochelle Park, N. J.**

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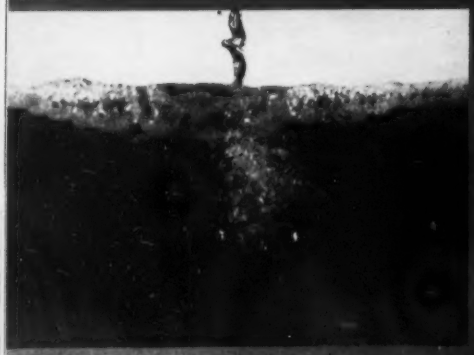

**1** Two immiscible phases separate immediately when a hydrocarbon solvent containing no emulsifier is poured into water.

**2** The same solvent containing 3% of a poorly balanced blend of anionic-nonionic emulsifiers forms only a fair emulsion in water.

**3** The spontaneous "bloom" of a good emulsion dispersing in water results from the perfect balance of an Emcol emulsifier at the same 3% concentration.

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kilos sulfur (99.5-99.98% S). Materials other than alkyl benzene, such as fatty alcohols, ethylene oxide adducts, and others can also be sulfonated by the converter gas process.

### Commercial Plant

First commercial plant to use converter gas sulfonation based on accurately dosed sulfur is Zohar Soap and Detergent Factory, Dalia, Israel. Sulfonation at Zohar is carried out as a semicontinuous process in two small reactors of about 250 liters capacity. The $SO_3$ production units uses 500 kilos of sulfur every 24 hours to make 1200 tons of $SO_3$ as converter gas (7-8% $SO_3$), enough to sulfonate about 3000 kilos of alkyl benzene in 24 hours.

About 175 kilos (200 liters) alkylbenzene are dosed accurately into the sulfonation vessels. During the time (70-72 minutes) it takes to sulfonate this amount in one sulfonating vessel, the finished sulfonation mixture in the other one is "aged" for 15 minutes. Then a small amount of water is added and the alkylbenzene sulfonic acid either run into storage or immediately transformed into the neutralized AB-sulfonate. Addition of the small amount of water (2-3% in the sulfonation mixture) helps to overcome formation of anhydride sulfonate and keeps the color of the AB-sulfonic acid stable even on prolonged storage in mild steel drums or tanks. In fact the main "control instrument" on the sulfonation side of the plant is a clock. As an alternative, dosing, timing, filling, etc. may be carried out by automatic controlled valves or similar devices. One may transform the process into a fully automatic one, by having the alkylbenzene dosed constantly into the sulfonation vessel, where it comes into contact with the $SO_3$ gas stream and by having the sulfonic acid constantly flowing out of the vessel into the aging tank by an overflow at the top of the sulfonating vessel. From the aging tank the sulfonic acid flows continuously into the subsequent processing vessels. This fully automatic version is the "Sulfurex" process which the Italian firm, Ing. Mario Ballestra & Co., Milano, worked out in cooperation with the author.

Heat of reaction liberated by sulfonating alkybenzene with $SO_3$ is much greater than that developed by acid or oleum sulfonation. Thus heat exchange during sulfonation is of very great importance. Furthermore, the high viscosity of the reaction-mass at the end of the sulfonation, makes heat exchange difficult. Therefore, sulfonation vessels are fitted with cooling jackets, especially constructed cooling coils, and/or sidearm heat exchangers through which the reaction mass is circulated by means of a gear pump. In principle, this sulfonation procedure does not differ from the one described for sulfonation with vaporized $SO_3$ (2). However, type of agitator and correct distribution of the $SO_3$ gas stream are of extreme importance.

Rapid in-process tests for complete sulfonation are essential. A test method has been developed (3) which is based on the fact that a 10% sodium AB-sulfonate solution gives turbidity on 1:1 dilution with methanol, if the percentage of unsulfonated matter is above 1.5%. This test can be carried out in not more than two minutes by the plant operator on the spot and makes it possible to check sulfonation without waiting for a time consuming quantitative test in the laboratory.

Following are specifications of alkylbenzene sulfonic acid produced by our method:

Free sulfuric acid 2.0% max.

Active detergent matter calculated as the sodium salt of the DDB-sulfonic acid: 100% (plus or minus 1%)

Unsulfonated matter calculated on 100% active detergent matter: maximum 1.5%

100 parts of DDB-S 100 needed for neutralisation:

13-14 parts caustic soda (NaOH)

or 47-51 parts triethanolamine

or 34-37 parts diethanolamine

or 19-21 parts monoethanolamine

### References

(1) Israel Patent Number 12536 (patents in other countries pending)

(2) E. J. Carlson, G. Flint, E. E. Gilbert, and H. R. Nyschka, *Ind. Eng. Chem.*

(3) A. Davidsohn, *Soap Perfumery Cosmetics* (*50*, 276 (1958) *31*, 392 (1958)

★

### Hooker Names Moore

John N. Moore has been named manager—distributor sales, for the eastern chemical division, Hooker Chemical Corp., Niagara Falls, N. Y., it was announced recently by Charles Y. Cain, division sales manager.

Mr. Moore, supervisor—distributor sales since 1957, succeeds Ralph C. Hughes who remains with the division as special assistant to the sales manager until his retirement next April.

★

### Breck Expands Warehouse

John H. Breck, Inc., has announced plans for the construction of a $140,000 addition to its Lowell St. plant, West Springfield, Mass.

The 20,000 square foot, one story corrugated aluminum building is to be used as a warehouse. Construction is expected to begin immediately.

★

### James Eastwood, Jr. Dies

James Eastwood, Jr., 47, president of Benjamin Eastwood Co., Paterson, N. J., machinery manufacturers, died Dec. 22, 1960.

In 1946, Mr. Eastwood succeeded his father as president of the family owned firm, founded in 1872. Early in 1960, Houchin Soap Machinery Co., Paterson, N. J., was acquired by the Eastwood company. Houchin now operates as a division of Benjamin Eastwood Co.

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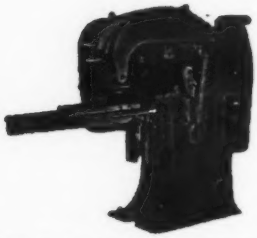

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3 — Proctor and Schwartz Dryers.
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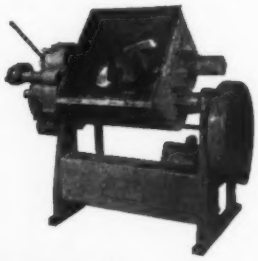
1 — F. J. Stokes Transwrap Filling and Packaging Machine.
2 — R. A. Jones and Redington Cartoning Machines.



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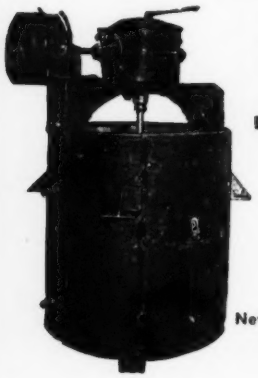

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(*Turn to Page* 195)

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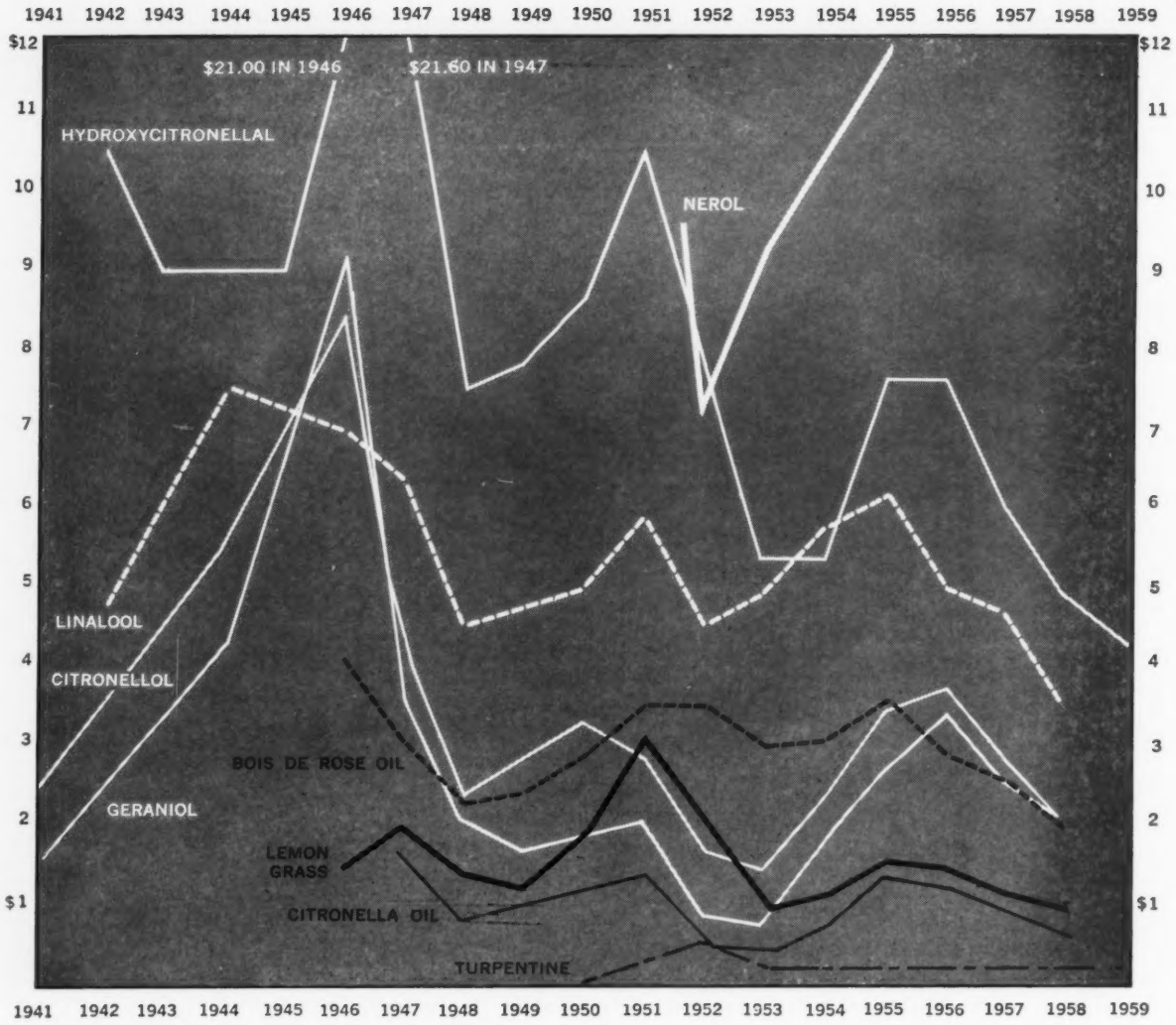


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## Situations Wanted

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### CSMA Meeting

(*From Page* 101)

trade name "Slipspray." Mr. Hall covered the performance and physical characteristics of the product and outlined its actual and potential uses.

"Inhibited Antifreezes for Cast Aluminum," by H. Lee Craig, Jr., and P. H. Woods, Reynolds Metals Co., Richmond, Va., was presented by Mr. Craig, who described tests with various commercially available antifreeze formulations and results obtained to date on the corrosion behavior of aluminum. Tests included laboratory work and a modest field test. The following conclusions were reached:

1. Corrosion of the aluminum engine is no problem if an inhibited antifreeze is used in the cooling system.
2. Aluminum exhibits better corrosion resistance than cast iron but is subject to uniform dissolution and to pitting in the aggressive waters commonly found in the U. S.
3. An alloying addition of copper minimizes depth of pitting in cast alloys.
4. A machined surface is more prone to pitting attack that a cast surface.

"Brake Fluid and Proper Brake Maintenance" were discussed in a paper by Stanley W. Coryell and Donald H. Hanson of R. M. Hollingshead Corp., Camden, N. J. Presented by Mr. Coryell, the paper suggested that brake fluid and brake system problems would greatly gain by education of the shop personnel and of the ultimate consumer. Good labeling of brake fluid containers would aid this purpose. In addition, a Brake Maintenance Manual should be compiled by a joint effort of the appropriate subcommittee of the Automotive Division and the corresponding committee of the Society of Automotive Engineers, the authors believe. Publicity releases by CSMA would be an additional means of improving the brake fluids manufacturers' understanding of the problems involved.

### *Disinfectants, Sanitizers*

A symposium on "Merchandising Antimicrobial Products — Problems and Opportunities" constituted the program for the Disinfectants and Sanitizers Division session, Dec. 7. The first participant, Eugene N. Kramer of Sears, Roebuck and Co., Chicago, discussed "Anti-Microbial Additives — The Merchant's Viewpoint and Responsibility." Certain basic requirements regarding safety, durability, and minimal effects on the physical and aesthetic properties of the fabric must be met by "sanitary finishes," according to Mr. Kramer. These relatively new finishes for wearing apparel are designed to aid in preventing the formation of odors on fabrics and generally will protect that fabric from microbial decomposition. Though no medical claims for such finishes can be made, they do "satisfy the consumer's desire for a more hygienic environment, Mr. Kramer said. He pointed out that the manufacturer of the finishes must be prepared to guide the merchant in the use of ethical claims and must aid him in the establishment of a truly effective quality control program.

Mrs. Esther McCabe of Parents' Magazine, New York, next spoke on "Consumers' Media Look at Antimicrobial Agents."

The 12 requirements that a housekeeper in a hospital looks for in a disinfectant were mentioned by Mrs. Willard K. Tew, director of housekeeping services, University Hospital, Jackson, Miss. According to Mrs. Tew an effective disinfectant must:

1. kill a broad range of bacteria; 2. kill rapidly; 3. be non-toxic; 4. not be affected by organic matter such as pus, blood, sputum, soil, etc.; 5. not be affected by hard water; 6. leave a residual film; 7. be soluble in water in all proportions; 8. be economical in use; 9. be non-staining; 10. be non-corrosive; 11. possess good penetration; 12. have a pleasant odor.

What should the housekeeper expect from the manufacturer? In Mrs. Tew's opinion she should expect the following: "Integrity; the manufacturer will put his name only on a good product, one that can be relied upon to measure up to the claims set forth on the label or in product data; 2. "Continued and even strong efforts for better laws controlling the manufacturing of disinfectants"; 3. "More research in order to produce a better product"; 4. "More and better educational material"; 5. "An informed, courteous sales representative."

In discussing the "Genesis of Disinfectants," Leonard J. Oppenheimer of West Chemical Products, Inc., Long Island City, N. Y., reviewed the principal markets for disinfectants, the chief characteristics, and main types of disinfectants. He then went on to cover the considerations that must be taken into account in the development and marketing of a new disinfectant. The West "program," according to Mr. Oppenheimer, " . . . is long, thorough, exacting and not inexpensive. It develops products which not only meet the current needs, but are designd to be much better than those that meet a 'spec,' or a minimum performance."■

—★—

### Columbia Wax Ups Cardone

Appointment of Elfie Cardone as manager of customer services was announced recently by Columbia Wax Co., Glendale, Calif. Miss Cardone formerly supervised customer service and general office functions.

### Rhodes Named Manager

Roland L. Rhodes has been named manager, Pest Control Supplies, 3622 State Ave., Kansas City, Kans., it was announced recently.

Roland L. Rhodes

Prior to joining PCS, Mr. Rhodes was research and development manager with Cook Chemical Co., Kansas City, Mo. He was also product manager, in charge of marketing "Prime," professional insecticide aerosol for Cook.

—★—

### Issac Sebrow Dies

Issac Sebrow, 74, president of S. & S. Soap Co., New York, died suddenly on Dec. 14. Mr. Sebrow founded the company in 1932. His four sons, Sol, Norman, Abraham, and Joseph are now partners in the firm which makes a full line of soaps, dishwashing compounds, and liquid detergents.

### TGA Meeting

(*From Page* 103)

tutes a relatively small percentage of the entire American population, it is possible that single, all-purpose products for this group are less practical than for the larger but somewhat more homogeneous white population. What has been said about shampoos can to a certain extent be extended to hair conditioners. The problem of damaged hair is probably more acute among Negroes than among whites, because of the physical and chemical treatments used as hygiene and beauty aids. The problem of manageability, which hair conditioners seek to alleviate, seems to be especially severe because of the strong natural curliness and the difficulties in the hair-softening process."

Other papers presented included the following: "Odor Intensity and the Stereochemical Theory of Olfaction," by James W. Johnston, Jr., of Georgetown University Schools of Medicine and Dentistry, and Albert B. Parks, Industrial Engineering Branch, Diamond Ordnance Fuse Laboratory, Washington, D. C.; "Studies on the Darkening Action of Dihydroxyacetone," by Dr. Peter Flesch and Dr. Elizabeth C. Jackson Esoda, University Hospital, University of Pennsylvania, Philadelphia; and "Studies on the Absorption of a Simple Dyestuff by Hair," by Martin M. Rieger and Stanley Brechner, Warner-Lambert Research Institute, Morris Plains, N. J.

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### McGann Joins ADM

James F. McGann has joined Archer-Daniels-Midland Co., Minneapolis, Minn., as a market development chemist, it was announced recently. Mr. McGann will work on the development of new markets for ADM's fatty nitrogen chemicals.

### Cosmetic Chemists

(*From Page* 114)

under severe and prolonged treatment. Under practical conditions no depolymerization was found to occur in large molecules such as natural gums. To obtain optimum emulsification results, runs ranging from two to three minutes are required. Experimental runs of up to 30 minutes produced no improvements. The speaker stressed the need for more research work since many factors in ultrasonic emulsification are still unknown.

J. Y. Oldshue of Mixing Equipment Co. reviewed "Scale Up Problems with Impeller Types of Fluid Mixers in Cosmetic Processing." Scale up considerations include characteristics of propellers, turbines, or paddles, viscosity characteristics of the fluid, etc. Dr. Oldshue stressed the importance of using a laboratory vessel which resembles production tanks as closely as possible. For successful transfer from laboratory to pilot plant to full scale production it is most important to maintain mutual ratios of flow, shear rate, viscosities, volumes and other important processing factors.

A model of a twin shell mixer was shown and its application in liquid-solid solid-solid cosmetic formulations was discussed by John J. Fischer of Patterson-Kelley Co. The twin shell mixer is a tumble blender incorporating attrition devices and a liquid dispersion bar. Mr. Fischer compared his device with the hammer mill, used for physical blending, and claimed economies in processing time and materials handling, combined with improvements in the end product due to better adjustability of process variables.

Other papers presented included: "Some Toxicologic and Clinical Studies with Dihydroxyacetone," by Dr. Leon Goldman, College of Medicine of the University of Cincinnati; "Systemic Effects of Topically Applied Cosmetics," by Dr. Frederick Reiss, Post Graduate Medical School, New York University; and "The Current Status of Acne Management," by Dr. John Strauss, School of Medicine, Boston University.

At luncheon, H. J. Amsterdam, outgoing president of the society presented his annual report in which he stated that the membership had increased to 813. He introduced Dr. Plechner to the gathering, and thanked the various committees for their support.

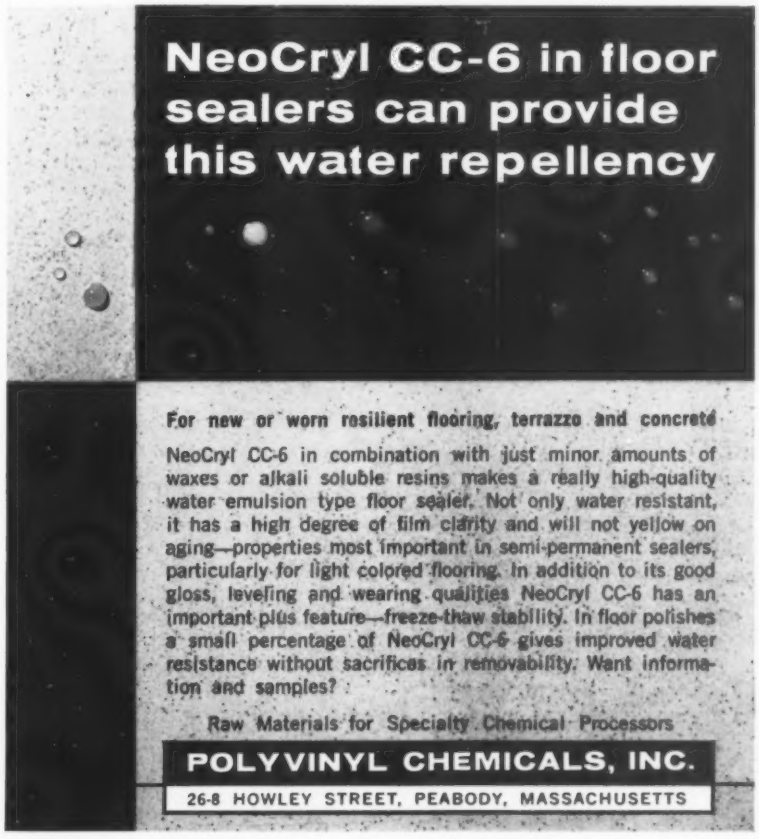
### Soap Meeting

(*From Page* 45)

be devoted to a general session. J. David Justice of Lever Brothers Co., chairman of the technical advisory council steering committee, will head the program with his "Report of the Technical Advisory Council." Dr. Justice's report will be followed by summaries of group conclusions reached at the panel sessions. These will be presented by the respective moderators. Leo Cherne, Research Institute of America, will then give a talk on "The Economic Impact of the New Administration."

Featured speaker at Friday's luncheon is Edgar M. Cortright, National Aeronautics & Space Administration; his subject: "The Shape of Things to Come." Luncheon will be followed immediately by the association's annual business meeting and the board of directors meeting.

Friday evening, Jan. 27, the association will give a reception and cocktail party for registrants and guests. The annual banquet and floor show will conclude the events.■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## COMING MEETINGS

American Chemical Society, national meeting, St. Louis, Mo., March 21-30.

American Oil Chemists' Society annual meeting, Sheraton-Jefferson Hotel, St. Louis, May 1-3, 1961; fall meeting, Pick-Congress Hotel, Chicago, Oct. 30-Nov. 1, 1961.

Association of American Soap & Glycerine Producers, 34th annual convention, Waldorf-Astoria Hotel, New York, Jan. 25, 26 and 27, 1961.

Chemical Specialties Manufacturers Association, 47th mid-year meeting, Drake Hotel, Chicago, May 15-17, 1961.

Drug, Chemical and Allied Trades Association, annual meeting, Pocono Manor Inn, Pocono Ma[illegible]a., Sept. 14-17, 1961.

[illegible]ntomological Society of America, Southeastern Branch, 35th annual meeting, Admiral Semmes Hotel, Mobile, Ala., Jan. 23-25, 1961.

Folding Paper Box Assn. of America, annual meeting, Drake Hotel, Chicago, March 20-22.

National Chemical Exposition, Amphitheater, Chicago, Sept. 5-8, 1961.

National Packaging Exposition and Conference, Exposition Center, Chicago, April 10-14, 1961.

National Sanitary Supply Assn., 38th annual convention, Conrad Hilton Hotel, Chicago, April 23-26, 1961.

National Sanitary Supply Association, regional meetings, districts 4 and 6, Congress Hotel, Chicago, Jan. 26-27; districts 1 and 2, Waldorf Astoria Hotel, New York, Jan. 30-31.

New York Premium Show and Premium Advertising Conference, New York Coliseum, Sept. 25-28, 1961.

Packaging Machinery Manufactures Institute, (PMMI) fourth annual show, Cobo Hall, Detroit, Nov. 7-10, 1961.

Plant Maintenance & Engineering Show, 12th annual, International Amphitheatre, Chicago, Jan. 23-26. Conference, Jan. 23-25, Palmer House and Amphitheatre.

Western Agricultural Chemicals Association, Disneyland Hotel, Anaheim, Calif., March 13-15.

Toilet Goods Association, 26th annual meeting, Waldorf-Astoria Hotel, New York, May 9-10-11, 1961.

Synthetic Organic Chemical Manufactures Association, monthly luncheon meetings, Roosevelt Hotel, New York, Feb. 16; March 14; April 13; and June 13; annual spring outing, Skytop, Pa., May 22-24.


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# tale ends

**SO, they tell us that golf is a nice quiet, gentle game. 'Taint so, says Gene McCauliff, prez of the Glyco Division of Charles L. Huisking Co., New York. Recently, in blasting out of a sand trap with a bad side-hill lie, Gene snapped a rib. Football is relatively the safer game, he maintains. Incidentally, Senor McCauliff was the winner of the first CSMA golf tournament held last June at the Knollwood Country Club near New York.**

* * * * *

*En route to the train to carry them to the CSMA meeting at Hollywood, Florida, last month, Jackie and Fred Lodes were in an automobile smash-up. They changed cars and hustled to the train arriving at Penn Station, New York, exactly one minute before the train left. Luckily nobody was hurt seriously although CSMA Treasurer Fred required the services of a doctor upon his arrival in Florida.*

* * * * *

In his farewell address as president of CSMA, Dr. George Fiero reviewed the work of the association for the past year. The novel feature of his address was illustrating it with colored slides of the various leading members of CSMA who had been most active during 1960. It made a very effective and fitting tribute to those who had given their time and efforts during the year in aiding the president. The final shot was one of Charles Beach, the newly elected prez.

* * * * *

**Formation of an Aero-space Division of the Chemical Specialties Manufacturers Assn. was officially proposed to the Board of Governors at its recent meeting. This would be a division for manufacturers of maintenance and other products for the aeronautical field and for space craft, including jet fuels and the like. The CSMA Board turned down the proposal, for the time being at least, feeling the new division should be a part of the present Automotive Division. And there it stands as of now.**

* * * * *

*Bill Peterson of Enjay won the golf tournament held in conjunction with the Florida meeting of CSMA last month. He turned in a 73 gross with three short missed putts. Prominent also on the golf course was the Gruesome Eightsome, a pair of foursomes which played the course in electric carts after the fashion of Ben Hur, and which had only two scores under 100, a couple of 91's by Len Oppenheimer and Harold Schmidt. Other members of this gruesome gang were Glenn Doerr, Sonny Lawson, Clarence Weirich, John Powell, Jim Ferris and Ye Scribe. The poor course really took a beating.*

**Henry A. Nelson, formerly president of the Chemical Specialties Manufacturers Association and also former president of the Chemical Supply Co., Cleveland, who "retired" from active business about ten years ago and moved to California, has been elected president of the Kiwanis Club of Sierra Madre, Calif. for 1961. The most active "retired" man west of the Mississippi, they tell us!**

* * * * *

Jean Doyen of "Le Fly-Tox," Geneevilliers, Seine, France, was a visitor in the U. S. recently. In a three-way meeting with Bill Moburg, head of American Fly-Tox (Rex Research, Toledo) and Ed McKernan, past chairman of the Aerosol Division of CSMA, the king's English and the queen's French were really torn to shreds. Jean probably returned to France with the feeling that all Americans are slightly nuts. At Aigue-Vives, Gard, France, the French company is building a new plant to manufacture aerosols and agricultural insecticides.

* * * * *

**Another granddad in the soap business. This time it's Lester M. Rosenberger of National Milling & Chemical Co., Philadelphia. The new grandson is Jeffrey Clemens Rosenberger, whose father, Wellington C. Rosenberger, Les' son, is a minister in Johnstown, Pa. If young Jeffrey decides to join National Milling someday, he will be the fifth generation of Rosenbergers to serve with the firm.**

Pity Centa Isermann, prez of Van Dyk Co., Beltsville, N. J. From the 80° temperature of sunny Florida during the CSMA meeting, she had to fly north to Montreal for the annual Christmas party of the Canadian Toilet Goods Manufacturers Assn. Mrs. Isermann stopped off in New York en route to Canada to pick up snow boots, which she probably needed.

* * * * *

**Shortly, a 7 foot 10 inch sailfish will hang on the wall of the private office of Earl Brenn, prez of Huntington Laboratories, Inc., Huntington, Ind. But in all due honesty, we must tell you, gentle reader, that Mr. Brenn did not land the fish. His wife did! Ruth Brenn, the mother of those famous five daughters of Indiana, was the "fisherman" who turned the trick last month off Florida. Al Candy, prez of Candy & Co., Chicago, a veteran of the angling wars, who was on the boat attested that Ruth brought in the big fish without male help or advice.**

* * * * *

*Footnote on the big snow storm in New York City, Dec. 12: If you tried to telephone Colgate-Palmolive Co., you were given the following message: "This is the Colgate-Palmolive Company. This is a tape recording. The office is closed because of bad weather. Thank you."*

**THE ONES THAT DID NOT GET AWAY: Russell Puhle (Tykor Products Division of Borden Co., New York), his wife, Dorothy, and daughter Karlin, age 8, really hit the jackpot on a fishing expedition during the recent CSMA meeting in Hollywood, Fla. They each brought in a sailfish. Twelve-year-old Kristin, next to her father, helped him pull in the largest of the three. Who caught the smallest one shall forever remain a secret to keep peace in the Puhle family.**